

Issue 105

PS

1961 Series

THE PREVENTIVE MAINTENANCE MONTHLY



SPECIAL ARTICLE
ECHELONS OF MAINTENANCE
SEE PAGE 29

LIKE, AN INSPECTOR—

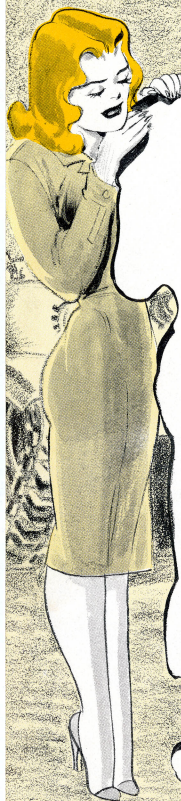
PUT YOURSELF IN

You and your inspector can make one swell team. All it takes to get this team working together is a little understanding and respect for the other guy's job.

In other words, when it comes to your equipment, put yourself in your inspector's shoes. Ask yourself, "Now if I was an inspector,

One more thing. When you put yourself in your inspector's shoes, remember that he's not interested in "spit-and-polish." Of course, the equipment should be clean . . . that's only part of good maintenance.

But, never replace a part just because it looks a bit worn. Ask yourself:



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which things on this truck (or tank, or bulldozer, or aircraft, etc.) would I want to be 100 percent? What are the things that count?"

That TM of yours can be a great help in finding these things out. And any time you get stuck, call your support unit. They'll sure be happy to give you a hand.

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But, never replace a part just because it looks a bit worn. Ask yourself:

"Does this part have more life in it?"

"Will it affect safety?"

If the answer to the first question is "Yes," and the answer to the second question is "No," leave that part be.

In the long run your inspections will get easier and you'll not be wasting a lot of effort on maintenance work your equipment does not need.

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PS wants your ideas and contributions, and is glad to answer your questions. Names and addresses are kept in confidence. Just write to:

Sgt. Half-Mast,
PS Magazine,
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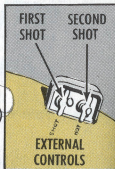
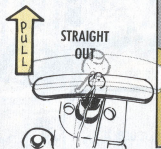
M-6

A while ago you got the A B C's on getting to know the M60. Now, here are a few P's and Q's on easy living with your M60. Later we'll finish off with the X Y Z's on how to keep your M60 healthy.



Portable, 5-lb extinguisher on turret platform under gunner's seat.

The M60 has two—(count 'em)—two independent systems of fixed fire extinguishers, both fed by the three 10-lb cylinders forward of the driver's seat.



To set off the first shot, pull the control handle near the driver, or the handle marked 1st SHOT outside the tank. This'll discharge one of the three cylinders.

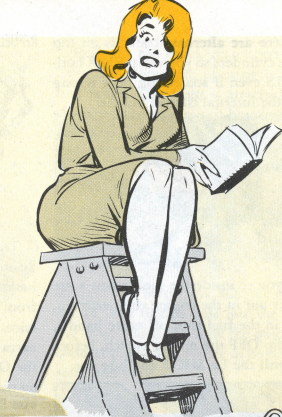
If you pull the 1st SHOT handle inside the tank, it also cuts off the fuel supply to the engine. The 1st SHOT handle outside the tank does not do this.

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EASY TO LIVE WITH? ... WHY MAN, SHE MAY BE BIG, TOUGH, AND RUGGED BUT IF YOU TREAT HER RIGHT...

M-60

part II

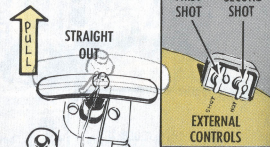


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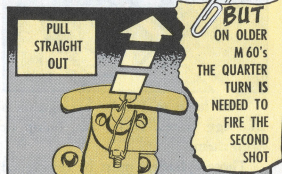
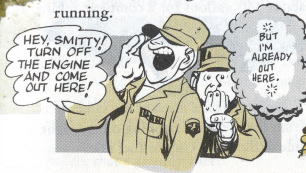
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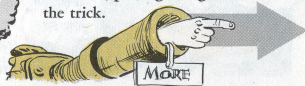
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dioxide gas rushes out of the cylinder into a time delay bottle. Then, after a 10-second delay to let the engine die, it discharges through the perforated tubes in the engine compartment. The engine has to be off to keep the fans from blowing away the carbon dioxide before it can put out the fire.

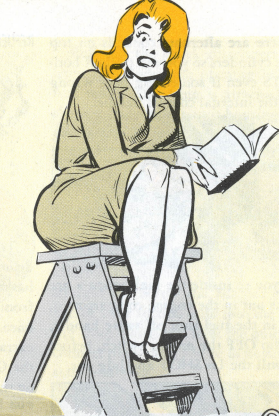
The shut-off relay is connected only to the control handle inside the tank. This is because there should always be somebody inside the tank when the engine's running. And if there's nobody in the tank, the engine should not be running.



If the 1st SHOT doesn't put out the fire, pull the handle marked 2nd SHOT from the outside or pull the handle at the driver's position straight back. This discharges the final two cylinders. Ne'mind any of that jazz about turning the handle a quarter turn before pulling off the second shot. With the new activator, pulling straight back will do the trick.

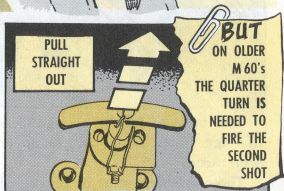


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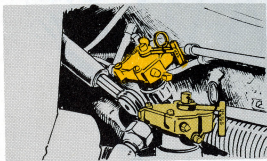
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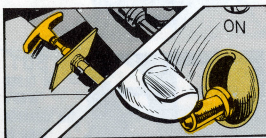
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There are alternate controls on top of the cylinders so you can pull off both SHOTS even if something goes wrong with the internal control handle.

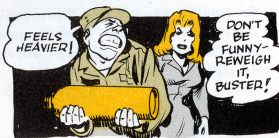


If you're inside the tank when a fire breaks out in the engine compartment, push in the fuel shut off valve handle, and flip OFF the master switch, before you pull the 1st SHOT and bug out.



You have to handle extinguishers like egg crates. Never jar, bump or drop them.

Those cylinders must be reweighed at every quarterly inspection or whenever a seal is broken, or when you think the cylinder might've been discharged. If the weight of a cylinder's contents is more than 10 per cent short of what it should be, have it recharged.

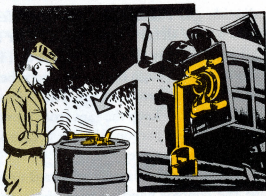


REFUELING:



The pump for refueling from 55-gal drums is carried on the side of the turret basket. Some outfits save time refueling from 5-gal cans by pouring two cans at once. O'course they have to borrow the extra nozzle because you get only one in the OEM.* When using 5-gal cans, be on the lookout for water and dirt.

*ON EQUIPMENT MATERIEL



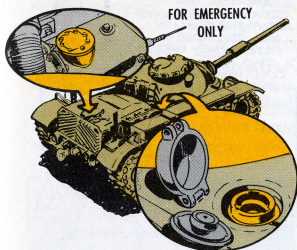
Use the same safety precautions that you would with gasoline.

On the first filling, the tanks take 385 gallons, but afterward you figure about 350 gallons for a complete refill.



Both tanks are filled at the same time from the fuel filler opening on the right side of the tank. Use the fuel filler open-

ing on the left only for emergencies.



WATER IN FUEL TANKS:

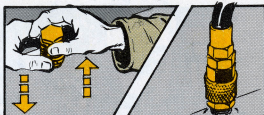


Water is OK where it belongs, in a river or a bath tub, or even in a not-so-dry martini—but it doesn't do any good in the fuel tanks of your M60.

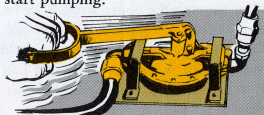
The water gets there all by itself from condensation. It's your job to draw it out or it'll corrode the fuel injection nozzles.

To get the water out of the fuel tanks you do this—hook the portable fuel pump hoses to each end of the pump. Get adapter FSN 2590-690-1162 from your OEM and screw it into the open end of your suction hose. Remove the nozzle that's already there.

Pull out the quick disconnect plug from the condensate opening on your fuel tanks. This plug is attached by a chain to the sending unit housing. You get it out by pushing down on the



knurled collar and pulling the plug straight up. Screw the adapter on the end of your suction hose into the opening from which you took the quick disconnect plug—and you're in business to start pumping.



Man the pump... at first you may get rust-colored water and then clear water, but keep on until you get nothing but fuel coming from your discharge hose.

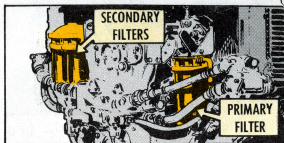
Do this on both the right and the left fuel tanks at least once a week or before you put a tank that's been sitting around for a long time into operation.

Be sure you get both the left and the right fuel tanks. You can't get all the water out through one opening.

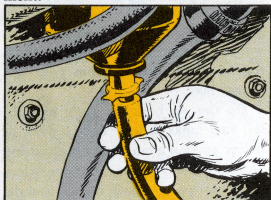


FUEL FILTERS:

A primary filter is mounted on the right front face of the engine and a secondary filter (twin filter) on the left front face of the engine.



PRIMARY FILTER: In cold weather you drain water from the primary filter every day before you start out. You can reach the petcock on the bottom of the filter through the upper access plate on the engine compartment bulkhead. Leave the petcock open for a couple seconds. Use a hose so water and fuel won't drain into the engine compartment.



If you're a tank crewman, you drain the primary fuel filter, but that's all. Replacing the element and other servicing is done by your company mechanic. This filter, when taken apart, must be reassembled just like the TM says. If the parts are not put back together right you'll have a mighty sick filter on your hands.

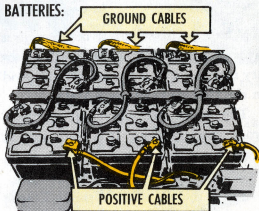
REMEMBER, YOU CREWMEN NEED WORRY ABOUT THE PRIMARY AND SECONDARY FILTER ONLY UNDER TWO CONDITIONS: COLD WEATHER AND A NEW ENGINE!



SECONDARY FILTER: When a new (or re-conditioned) engine is started for the first time you bleed the secondary filters to let out the trapped air. You may also have to do this if the engine is dry (an engine that's been drained of all fuel).

Aside from these cases, the crew members don't have to touch the secondary fuel filter. The company mechanic services it and, when necessary, the filter element is replaced by your 3rd echelon support unit.

BATTERIES:



The M60 has six 100 amp-hour type 6 TN waterproof batteries connected in series-parallel. They're under the crew compartment platform. Keep their water level about $\frac{3}{8}$ inch above plates.

Your corrected hydrometer reading should be around 1.285 for a fully charged battery. Always recharge when specific gravity reading drops to 1.225. If any individual battery shows a reading spread of over 25 points, replace that battery. This is important. Having matched sets of batteries is more necessary with the M60 than with most other vehicles.



In removing batteries, always unhitch ground cables first. This is to keep your positive cable from arcing when being removed.

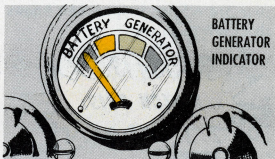
Master control switch must be OFF. When installing batteries, hook up ground cables last... and always follow the battery installation diagram in your -20 TM.



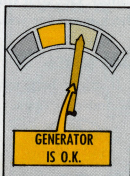
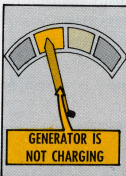
BATT-GEN INDICATOR:

Instead of an indicator light, the M60 has a Battery-Generator indicator on the instrument panel that is divided into four parts, so the gage reads from your left to right—red, yellow, green,

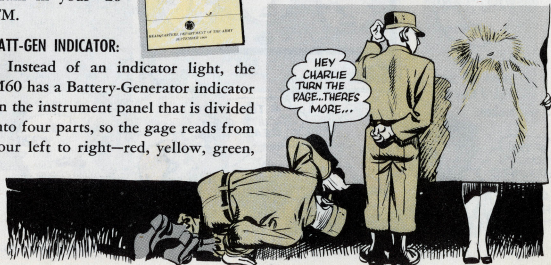
red. This indicator is real useful. For instance, when you flip ON the master switch and find the gage needles moves into the left red, it's telling you that your batteries are too low to start the tank.



The needle should be in the yellow part to start. However, if it stays there when you have your tank at a fast idle,



your generator's not charging. The needle should move into the green if the generator's working right.



If it stays on the farthest **right** red part after you've had a reasonable time to build up the battery charge again, your generator is overcharging. Make sure your 3rd echelon support unit knows about this condition.



If you find your generator won't charge, it may have loose terminals or breaks in the master relay harness assembly. Get your company mechanic to check it out for you.

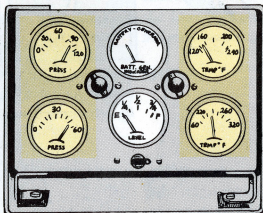


GAGES BROKEN:

It might help to know how your gages read when the circuit they are on is grounded or open.



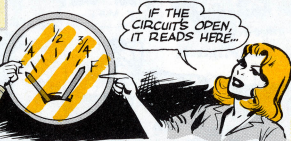
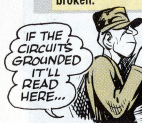
All pressure gages will read high if they're broken.



All temperature gages will read low if they are broken,



... regardless of the real condition of the tanks.

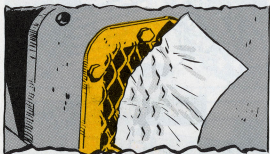


GENERATOR:

The 300-amp generator on the M60 is waterproof and the generator drive ratio has been increased to give more amps at a lower RPM. It is cooled by ducted air, and has its own fan motor. You find the duct inlet behind the crew compartment lower access plate.



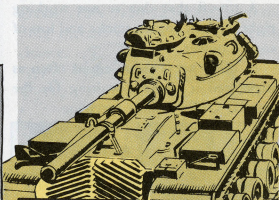
Right after you start your engine, check to be sure the generator fan motor is running. If a chunk of rag or paper will stick to the duct inlet by suction, the fan motor is running. If the



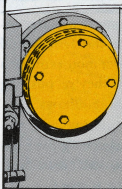
fan motor won't run, shut off the engine and find out why.

AIR INTAKE:

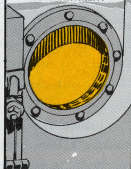
The air cleaners on the fenders are fed by two intake lines, which normally draw the air from the crew compartment. If you reverse the air intake



**NORMAL—AIR
DRAWN FROM
CREW COMPARTMENT**



**REVERSED FOR COLD
WEATHER. AIR
FROM ENGINE
COMPARTMENT**



screen, the air will be drawn from the engine compartment, which is how you would want it in cold weather.

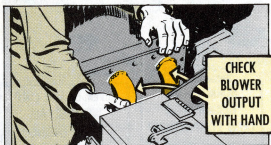


AIR CLEANERS:

The air cleaners on your M60 tank are the best in the business—up to 99 per cent efficient—but they need your help.

A tip-off that they're not working right is black engine smoke and loss of engine power.

In dusty areas clean 'em as often as they need it without waiting for the regular Q (750-mile) servicing.

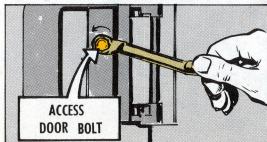


To check your cleaners, run the engine, then get up on the fender and hand-feel the two blower motors on each cleaner to make sure they're pushing the air out the discharge elbows.

If a motor's not running and you can't make it run by checking over the electrical connections, call your unit mechanic to replace the motor.

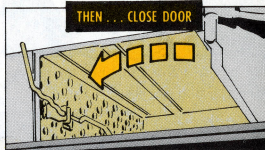
Shut off engine before making this check

If the motors are OK shut the engine off, climb down to the ground and unscrew the access door bolt so you can open the door. The cleaner won't work right if the gasket on this door is not

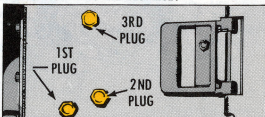


tight. If the gasket leaks, replace it with a new one, and try cementing the new gasket in place with Adhesive Type 11, (one pint can FSN 8040-285-1572).

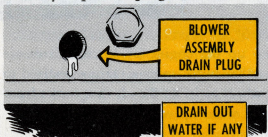
To take out the filter pack, turn the lever rod a half turn and pull out the filter element. Shut the access door to keep dirt out of the compartment while you make your inspection.



Next... look for three plugs along the side of the air cleaner.



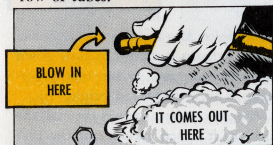
First you unscrew the lowest plug. This is the blower assembly drain plug. Let out any water and clean out the dust before you put the plug back.



Next you take out the plug nearest the one you have just worked on. This is one of the dust chamber inspection port plugs and the other dust chamber inspection port plug is directly over it near the top of the housing.



Shine a flashlight in the hole and see if dust has built up above the bottom row of tubes.



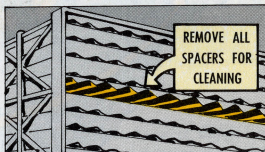
If the dust has built up, unscrew the top plug, and use a compressed air hose to blow the dust out the bottom plug. This'll work better if you put the filter pack back in, shut the access door and have the blower motors running when you do it. O'course the blower motors won't work unless the engine's running.

These plugs are aluminum alloy and so is the air cleaner housing. You'll have to screw them in and out a lot so be careful not to strip the threads. It is a good idea to work a little graphite grease (FSN 9150-223-4001) into the plug threads every time you get the chance.



Every other Q service (1,500 miles) give the air filter bag a good going over.

You do this by removing the bag from the filter basket assembly and taking out the spacers between the folds.



Then shake it like a rug, until all the loose dust is gone. Don't bang the bag against anything because it's not built to take much banging.

You can also clean it with compressed air. Use a pressure hose with a 1/8-in nozzle . . . and not over 100 PSI of air.

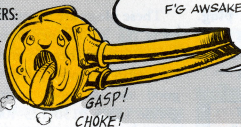
If it is really dirty, wash it in hot or cold water, with or without a non-sudsing detergent.

Don't use steam because the bag can't take temperatures over 212°.



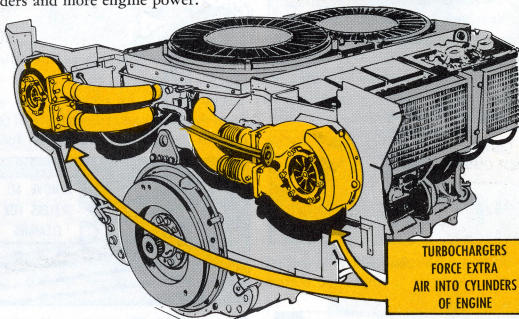
TURBOCHARGERS:

HACK!
KOFF!



F'G AWSAKES! KEEP THEM AIR
CLEANERS CLEAN

The two turbochargers on the M60 pep up the engine by forcing extra air into the cylinders. This works like so . . . exhaust gas spins a turbine shafted to an air compressor wheel. The compressor wheel picks up the air that comes from the cleaners and gives it a big push. So you wind up with more air in the cylinders and more engine power.



**TURBOCHARGERS
FORCE EXTRA
AIR INTO CYLINDERS
OF ENGINE**

If your air cleaners get clogged up, the turbochargers run too hot and may break down. In other words . . . keep the air cleaners clean.

Keep stuff like nuts, bolts, pieces of wire, and other junk from going through either the turbine or the compressor side. Cover both the air intake and the exhaust systems whenever a hose is removed from the turbocharger for any reason. Look for stuff that might work loose and foul things up.

The oil drain line from the turbochargers must be kept open and free

from kinks. Any leaks in the air intake or the exhaust systems can slow down the turbochargers, so see that everything is right tight and bright.

After the exhaust passes through the turbine, it's then kicked out the rear engine access doors. With a setup like that you don't need a muffler, so the M60 doesn't have any.



STALL TEST:

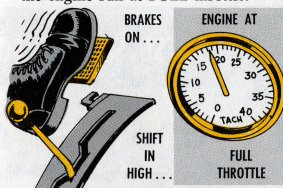
When you have engine trouble and can't locate it, ask a qualified company mechanic to make a stall check.

A stall check is limited to 15 seconds at a time. That's 15 seconds—not 30 seconds like in some other tanks.

Before a stall test is made the oil level must be up to the FULL mark in both the engine and the transmission, and the transmission must be operating in the right temperature range—



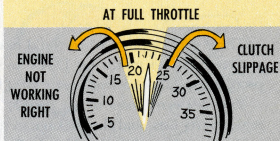
The brakes must be in the FULL ON position, the shift in HIGH range and the engine run at FULL throttle.



If the engine speed at FULL throttle is below 1,850 RPM, your mechanic will know the engine's not working right. That's when the mechanic will check through his engine manual to locate what's wrong.

If the engine speed goes up to 2,400 RPM or against the governor, there's clutch slippage in the transmission.

If there's transmission slippage, the shift control linkage adjustment should be checked. If that's OK, then your 3rd echelon support unit should be called.



A mechanic can also find out if the LOW range or REVERSE bands are slipping by shifting into the range to be checked. If there is slippage and the linkage is OK he'll call 3rd echelon support.

HOT STUFF:

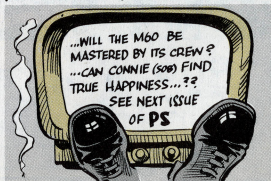
The engine shroud gets pretty hot, so wait for half to three-quarters of an hour before you try to remove it unless



you are wearing asbestos gloves. These should be in the OEM.

SHORTAGES:

Some M60 tanks were shipped out while they were short of the coaxial 7.62-mm machine gun M73, some of the interphone connecting cables and a few other items. These'll get shipped to your ordnance support as they become available. They should come to you automatically.



ELECTRICAL

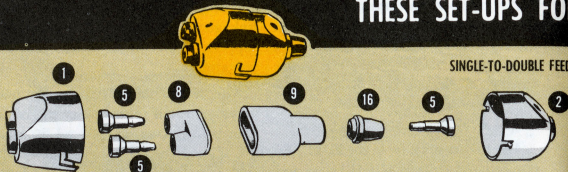
There may be times when you'd like to give it back to the Indians. Like when you're trying to match up FSN's and nomenclatures for your Douglas water-proof electrical connector repair kit. (FSN 5935-570-1060).

You just can't seem to get the SM 9-4-5935-SO1, your ORD 7 SNL'S, TM repair parts lists, and the package to read the same.

Here's a chart that should help you do some matching . . . and help get you the right parts.

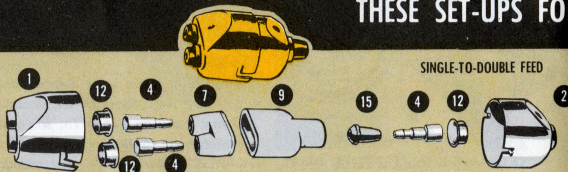
THESE SET-UPS FOR

SINGLE-TO-DOUBLE FEED



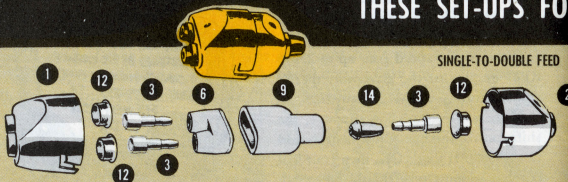
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SINGLE-TO-DOUBLE FEED



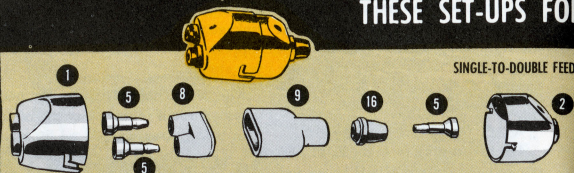
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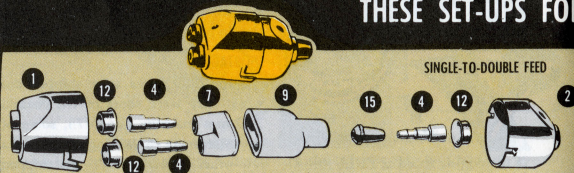
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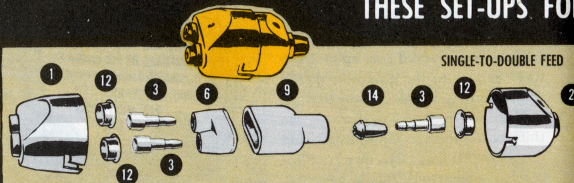
THESE SET-UPS FOR



THESE SET-UPS FOR



THESE SET-UPS FOR



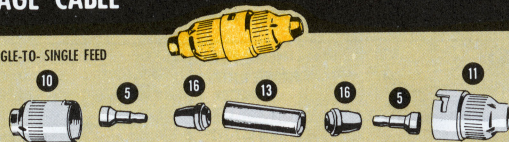
REPAIR KIT (DOUGLAS)



LOOK AT
THE NEXT
PAGE TO
SEE WHAT
THE CIRCLED
NUMBERS
MEAN.

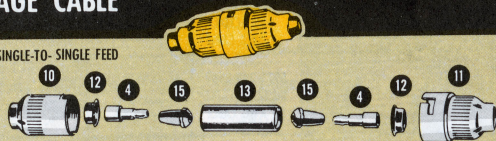
12-GAGE CABLE

SINGLE-TO- SINGLE FEED



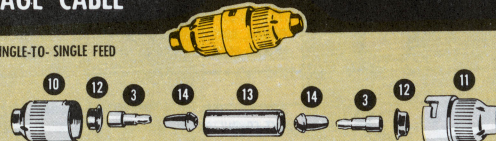
14-GAGE CABLE

SINGLE-TO- SINGLE FEED



16-GAGE CABLE

SINGLE-TO- SINGLE FEED



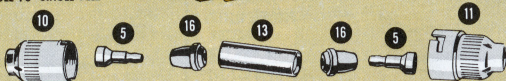
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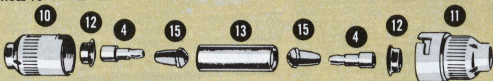
12-GAGE CABLE

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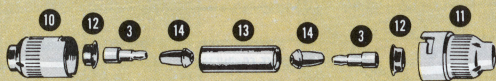
14-GAGE CABLE

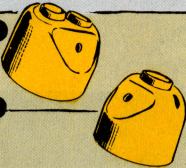
SINGLE-TO- SINGLE FEED

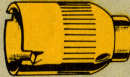
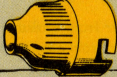


16-GAGE CABLE

SINGLE-TO- SINGLE FEED



THEY LOOK LIKE THIS:	SM 9-4-5935-S01 Get 'em by these FSN's and Nomenclature	It says this on the package:	The Ord 7 SNL's call 'em this:
1 	5935-030-1564 SHELL, CONNECTOR	H004-0573008 Shell, Female	17-8405.300-554 or 5935-350-9280 or H004-0573008 SHELL, ELECTRICAL CONNECTOR
2 	5935-030-1563 SHELL, CONNECTOR	H004-0573009 Shell, Male Connector	H004-0573009 SHELL
3 	5940-057-2931 FERRULE, ELECTRICAL CONNECTOR 16 AWG CABLE	5975-057-2931 Terminal	5975-057-2931 or H004-0572931 FERRULE, ELECTRICAL CONNECTOR
4 	5940-057-2929 FERRULE, ELECTRICAL CONNECTOR 14 AWG CABLE	5975-057-2929 Terminal	5975-057-2929 or 17-3049.335-020 FERRULE, ELECTRICAL CONNECTOR
5 	5940-057-2930 FERRULE, ELECTRICAL CONNECTOR 12 AWG CABLE	5975-057-2930 Terminal	H004-0572930 TERMINAL
6 	5975-340-3589 BUSHING, CABLE 16 AWG CABLE	H004-0573006 Grommet, Connector	H004-0573006 GROMMET
7 	5975-340-3591 THIMBLE, ROPE 14 AWG CABLE	H004-0573002 Grommet, Connector	H004-0573002 GROMMET
8 	5975-340-3590 THIMBLE, ROPE 12 AWG CABLE	H004-0573001 Grommet, Connector	H004-0573001 or 5325-350-9274 GROMMET
9 	5940-665-9563 SPLICE CONDUCTOR	5330-388-0554 Connector	H004-0573126 SPLICE, CONDUCTOR

THEY LOOK LIKE THIS:	SM 9-4-5935-SO1 Get 'em by these FSN's and Nomenclature	It says this on the package:	The Ord 7 SNL's call 'em this:
USE THIS OIL TO MAKE THE ASSEMBLY GO TOGETHER EASY LIKE. 	9150-234-5198 CUTTING OIL	9150-234-5198 Lubricant, Soluble Oil	14-0-727 OIL, CUTTING
10 	5935-030-1561 SHELL, CONNECTOR	H004-0573010 Shell, Male	5935-030-1561 or H004-0573010 or 17-3449.900-500 SHELL, ELECTRICAL CONNECTOR
11 	5935-030-1562 SHELL, CONNECTOR	H004-0573007 Shell, Female	5935-030-1562 or 5935-350-9279 SHELL, ELECTRICAL CONNECTOR
12 	5975-644-3156 BUSHING, ELECTRICAL CONNECTOR	5975-644-3156 Bushings, Terminal	H004-0572999 or 5975-350-9272 BUSHING, ELECTRICAL CONNECTOR
13 	5935-523-9840 ADAPTER CONNECTOR	H004-0573000 Connector, Assy	5935-350-9273 or H004-0573000 SPICE, CONDUCTOR
14 	5975-537-8638 BUSHING, CABLE 16 AWG CABLE	H004-0573003 Grommet, Connector	H004-0573003 GROMMET
15 	5975-340-3592 THIMBLE, ROPE 14 AWG CABLE	H004-0573005 Grommet, Connector	H004-0573005 GROMMET
16 	5340-537-8780 GROMMET 12 AWG CABLE	H004-0573004 Grommet, Connector	H004-0573004 GROMMET

Connie Rodd's

"SHORT 'N SWEET DEPT"

"Frozen" brake screws



Got nightmares from driving in slop and swamps? Or from crossing creeks with no bridges, or from maneuvering where rain pours from a boot one minute and a hot sun hits you the next?

If that's your life story and you're driving a Hydra-Matic G749-series 2½-ton truck with brakes that haven't been checked lately, your nightmares may be just beginning.

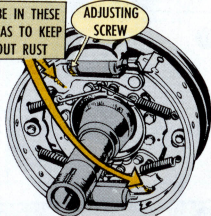
Most G749-series vehicles were issued with zinc-plated or cadmium-plated service brake adjusting screws. And after a bit of sloppy travel, fording and damp weather, rust and corrosion set in.

Then these brake adjusting screws lose their protective coating. And, first thing you know, the adjusting screws, wheels and supports freeze together so you may need a drill to separate 'em.

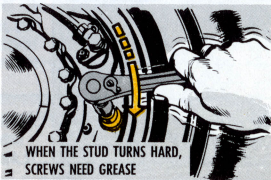
So . . . keep an eye on these adjusting parts any time you're servicing the brakes or re-packing the wheel bearings. And check 'em oftener when the road's sloppy or the weather's wet. Never wait till the brake shoe adjusting stud can't be turned, 'cause by then those screws have had it.

LUBE IN THESE
AREAS TO KEEP
OUT RUST

ADJUSTING
SCREW



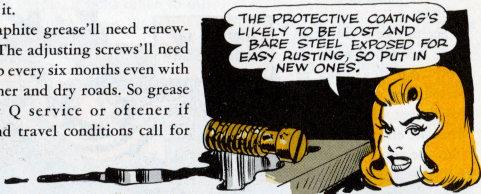
GRAPHITE GREASE IS BEST



Any time you go into the brakes . . . like when you're checking the wheel cylinders or brake linings . . . give the adjusting screws and wheels a good coat of grease . . . graphite grease, if you've got it.

Even graphite grease'll need renewing often. The adjusting screws'll need a grease job every six months even with good weather and dry roads. So grease 'em every Q service or oftener if weather and travel conditions call for it.

Once these screws freeze from rust and corrosion, you can sometimes unfreeze 'em by spraying with penetrating oil. They can be soaked and cleaned, but it's usually best to replace 'em pronto.



Here's the info you need from Ord 7 SNL G749 (2 Apr 57) to get new screws and adjusting wheels (gears):

Screw, adjusting, left brake, FSN 2530-741-2108.
Screw, adjusting, right brake, FSN 2530-741-2109.
Gear (wheel), adjusting, shoe, FSN 2530-741-2123.



LEFT

NOTICE
DIFFERENCE
IN THREAD
SLANT



RIGHT



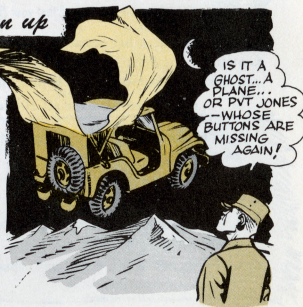
But never throw away the screws you've got unless they're rusted.

Button up

It's tough to keep out wind and rain when the turnbuttons for your Jeep's curtains are missing.

Chances are the quick and easy way to replace a few missing buttons is to pay a call at the salvage yard. But new buttons can be had.

QM has 'em, and you get 'em from Columbus General Depot, Columbus, Ohio. Ask for Turnbutton stud, #10 NFx $\frac{3}{4}$ -in machine screw shank, FSN 5325-821-6810.



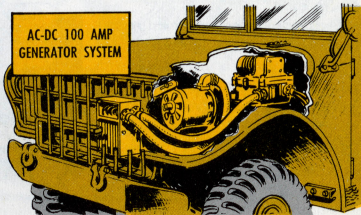


JUST the

Yup, the cupboard's as bare as a belly-dancer's navel.

And a lot of outfits are finding themselves on the short end of the stick when it comes to getting one of the AC-DC 100-ampere generator systems for their vehicles.

Seems like a real stampee developed when the 100-amp deal was released. And now you can't hardly get a kit no how—even tho enough were put into the supply system to go along with vehicle radios for a coupla more years.



The way kits were gobbled up, it seems that there are more 100-ampere systems buried under the hoods of unauthorized trucks than the traffic will bear, and things have ground to a screechin' halt.

Because Joe, there ain't no mo'.

Like the MWO's that authorized the kit's requisition point out, you have to answer "yes" to these two **musts** before you can latch on to a generator system:

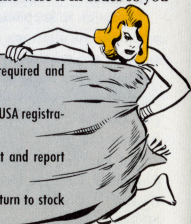


1. Your vehicle **must** have one of the radios listed in its MWO.
2. Your supply officer **must** sign a statement certifying that you have the correct radio in your vehicle and that your TOE calls for it.

Right now... a big search is underway to shed a little light on the "Great Generator Kit Mystery"... and it looks like a word to the wise is in order so you can miss the shrapnel when it hits the fan.

So... it's a good idea for all 100-amp users to:

1. Check to make sure all vehicles equipped with the kits are really required and authorized for radio operations.
2. Identify each vehicle equipped this way with the letter "X" behind the USA registration number in your maintenance records.
3. Redistribute these vehicles to where they're needed within the outfit and report any excess to higher headquarters.
4. Remove kits from vehicles due for cannibalization or disposal and return to stock or hold for replacement vehicles.





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Pure and simple, it boils down to this.

The AC-DC 100-ampere, 28-volt generating system is the best thing to hit vehicular radio transmission since KDKA was the hot spot on the crystal set. If your vehicles meet the demands of the MWO, use it in good health.

If it's unauthorized for your truck unload it, man, or else you're buying yourself a potful of grief.

This chart tells you what vehicles with which radios get the AC-DC 100-amp generator kit.

VEHICLE	AUTHORITY AND KIT	INSTALLATIONS	
		Single	Double
1/4-TON TRUCKS			
M38 Jeep	MWO ORD G740-W11 (1 September 1957) FSN 2930-0976-000	AN/ARC-27 AN/GRC-19 AN/VRC-30 SCR-193 AN/MRC-20	AN/GRC-19 + AN/VRC-1 AN/ARC-27 + (AN/GRC-3 through 8) AN/ARC-3 + (AN/GRC-3 through 8)
M38A1 Jeep M38A1C Jeep M170 Ambulance	MWO ORD G758-W6 (1 September 1957) 2920-699-6891		
1/4-TON TRUCKS			
(G741 Series)	MWO ORD G741-W12 (2 July 1959) FSN 2920-562-0414	AN/ARC-27 AN/GRC-39 AN/GRC-40 AN/GRC-10 AN/GRC-19 AN/GRC-46 AN/MRC-20 SCR-193 URW-3 URW-3A	SCR193 + AN/VRC-10 SCR-193 + (AN/VRC-1, 2, or 3) SCR-193 + AN/GRC-9 AN/GRC-19 + (AN/GRC-3 through 8) AN/GRC-19 + (AN/VRC-8 through 10) AN/GRC-19 + (AN/VRC-16 through 18) AN/GRC-19 + (AN/VRC-1 through 3) AN/GRC-19 + AN/GRC-9 AN/ARC-27 + (AN/GRC-3 through 8) AN/ARC-27 + (AN/GRC-3 through 8) + AN/GRC-19 AN/ARC-27 + AN/GRC-19 AN/ARC-27 + AN/VRC-10 AN/ARC-27 + AN/VRC-10 + AN/GRC-5 AN/ARC-3 + (AN/GRC-3 through 8) + AN/GRC-19 AN/ARC-3 + AN/GRC-19 AN/ARC-3 + (AN/GRC-3 through 8)
2 1/2-TON TRUCKS			
(G742 Series)	MWO ORD G742-W26 (1 September 1957) FSN 2920-569-8908		
(G749 Series)	MWO ORD G749-W40 (1 September 1957) FSN 2920-695-7223	AN/GRC-19	AN/GRC-19 + (AN/GRC-3 through 8) AN/GRC-19 + (AN/VRC-3 through 8) AN/GRC-19 + AN/GRC-5 AN/GRC-19 + AN/VRC-3

BARE FACTS



Pure and simple, it boils down to this.

The AC-DC 100-ampere, 28-volt generating system is the best thing to hit vehicular radio transmission since KDKA was the hot spot on the crystal set. If your vehicles meet the demands of the MWO, use it in good health.

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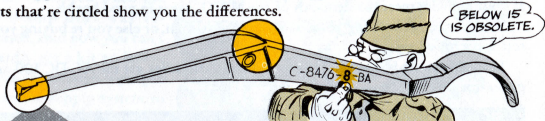
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M38A1 Jeep M38A1C Jeep M170 Ambulance	MWO ORD G758-W6 C1 (September 1957) 2920-699-6891		
3/4-TON TRUCKS			
(G741 Series)	MWO ORD G741-W12 C2 (July 1959) FSN 2920-562-0414	AN/ARC-27 AN/GRC-39 AN/GRC-40 AN/GRC-10 AN/GRC-19 AN/GRC-46 AN/MRC-20 SCR-193 URW-3 URW-3A	SCR193 + AN/VRC-10 SCR-193 + (AN/VRQ-1, 2, or 3) SCR-193 + AN/GRC-9 AN/GRC-19 + (AN/GRC-3 through 8) AN/GRC-19 + (AN/VRC-8 through 10) AN/GRC-19 + (AN/VRC-16 through 18) AN/GRC-19 + (AN/VRQ-1 through 3) AN/GRC-19 + AN/GRC-9 AN/ARC-27 + (AN/GRC-3 through 8) AN/ARC-27 + (AN/GRC-3 through 8) + AN/GRC-19 AN/ARC-27 + AN/GRC-19 AN/ARC-27 + AN/VRC-10 AN/ARC-27 + AN/VRC-10 + AN/GRR-5 AN/ARC-3 + (AN/GRC-3 through 8) + AN/GRC-19 AN/ARC-3 + AN/GRC-19 AN/ARC-3 + (AN/GRC-3 through 8)
2 1/2-TON TRUCKS			
(G742 Series)	MWO ORD G742-W26 C1 (September 1957) FSN 2920-569-8908	AN/GRC-19	AN/GRC-19 + (AN/GRC-3 through 8) AN/GRC-19 + (AN/VRC-3 through 8) AN/GRC-19 + AN/GRR-5 AN/GRC-19 + AN/VRQ-3
(G749 Series)	MWO ORD G749-W40 C1 (September 1957) FSN 2920-695-7223		

The right trigger?

It's a fact, right enough.

If your shootin' iron is a .30-cal machine gun, you want to be sure it gets the right trigger. And here's how to tell which trigger goes with what gun. The parts that're circled show you the differences.



SURFACES
ARE FLAT
AT END OF
TRIGGER

Trigger—FSN 1005-550-8476. This trigger is obsolete and doesn't get used because it sets up timing troubles. You can also tell this trigger by the number that shows up after the 8476 group of numbers. If it's below 15—this trigger has 8 on it—it's obsolete.



END OF
TRIGGER
IS ROUNDED

Trigger—FSN 1005-550-8476. This trigger is used in the M1917A1, M1919A4 and M1919A6 machine guns . . . and may be used as spares for the guns. The FSN is the same as the one for the obsolete trigger, but the big difference, besides the looks, is the number stamped on the trigger. If the one after the dash is 15 and above—this one shows 24—it's a good trigger.



END OF
TRIGGER
IS ROUNDED.
SMALL HUMP
AT BOTTOM.

Trigger—FSN 1005-342-1100. This is the only trigger that gets used in the M37 machine gun. It can also be used in the M1917A1, M1919A4, and M1919A6 machine guns.

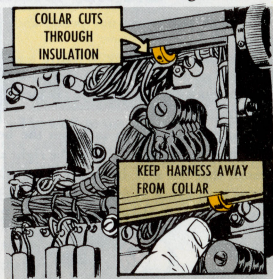


This one Nike-Hercules outfit had a real corker.

After they fired a missile during their annual service practice, the event recorder film was given a good going over. And it was noticed that the target velocities were at zero during most of the flight.



The equipment was given a look-see and it turned out that the conductor in the wiring harness of the GS-18136 control indicator slide frame was shorting to ground when the upper lockdown shaft was tightened. The retaining collar on the shaft had cut through the insulation—grounding the K4 zero relay on the control indicator. The indicator was energized—so all the event recorder channels were zero set.



You can stop this trouble before it starts by making sure the wiring harness is as far away from the lockdown shaft as possible.

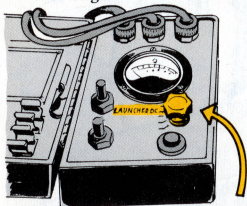


There's one good way to start an argument at some Nike sites.

Just throw out this question: What position do you leave the selector switch in when you're through using the squib tester?

Get 10 guys together and maybe four'll say the switch gets flipped to LAUNCHER-DC . . . a couple'll say LAUNCHER-AC . . . and the rest'll cut it down the middle by saying they don't know.

Who's right?



The guys who say LAUNCHER-DC are right. Leave it on LAUNCHER-DC when you're finished.

A Herc outfit'll find the scoop in paragraph 111 on page 237 of Change 6 to TM 9-1410-250-12/1.



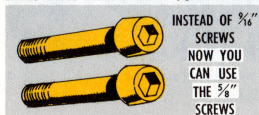
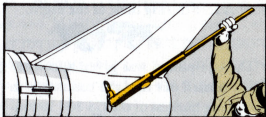
And, if you're at an Ajax site, you go to paragraph 105b on page 235 of TM 9-5012-1. That says you can leave the switch on either LAUNCHER-AC or LAUNCHER-DC when you're not using the squib tester—but LAUNCHER-DC is preferred while it's stored.

SAME SIZE SCREWS

You can put away your pencil and paper.

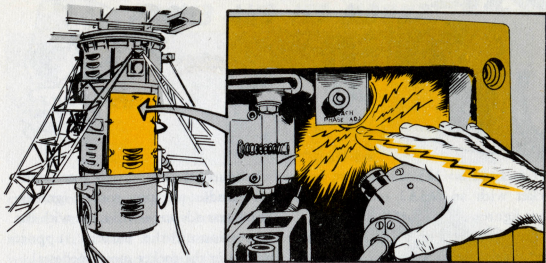
You don't have to try to figure out how you're going to fasten the $\frac{1}{16}$ -in fin attaching screws to your Honest John training round.

Your problem's been to fasten the hex-head screw when the only tool you have that comes close to being the right size for the job is your extension socket wrench that has a $\frac{3}{4}$ -in square drive and a $\frac{5}{8}$ -in hex male head. This is what you've been using to fasten the fin attaching screws to your tactical rounds because these screws have $\frac{5}{8}$ -in sockets. Right?



Well . . . the good word is that you can now use the $\frac{5}{8}$ -in fin attaching screws on your training rounds. And, as you know, they're listed under FSN 5306-333-0479.

WATCH THOSE TERMINALS



There's one sure way to get your arm out of the Nike Hercules acquisition antenna RF coupler faster'n you put it in. Just brush against the terminals of the R2 tach phase adj potentiometer. Yow!

And, since the terminals are facing down to make it easier to do any needed wiring, they're mighty easy to hit accidentally.

So... if you've been lucky enough to keep from getting jolted, keep your luck running for you by watching those R2 terminals.

NOT NEEDED

You can forget it's even mentioned. Silastic sealant, that is.

You came across the stuff in paragraph 209a(3) in TM 9-1410-250-12/1.

At one time the sealant was supposed to be used to shut off certain air passages. But that need's gone out the window. So paragraph 209a(3) has gone with it—as change 6 to the TM says.

ANOTHER THING...

If you've been using silicone compound on your M24 igniter... whoa, halt, stop using it.



The stuff to use is corrosion preventive compound. FSN 8030-569-5724 gets you a one-pound can from Ordnance.

It's listed in Ord 7 SNL Y-2 for Ajax guys. And a Hercules supply man wants to mention on his requisition that the stuff is needed to maintain equipment. This'll get you the compound.

NEW ADAPTER NEEDED

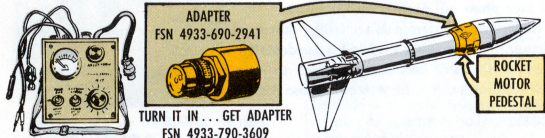


You have an M31A2 Honest John rocket with an M3A2 rocket motor. That figures.

Then you have an M17 multimeter. And you have an adapter issued with the multimeter that's supposed to work with the rocket motor.

It figures the adapter—it goes by the full handle of spin rocket ignition switch test adapter—will mate with the connection on the battery support bracket in the rocket motor pedestal.

Ah . . . but it doesn't. But a different adapter will. That's a guarantee.



So turn in the adapter that goes under FSN 4933-690-2741 and Ord P/N 8121226 and get yourself the adapter that's listed this way: FSN 4933-790-3609, Ord P/N 8426542.

There's a supply of the new adapters on the depot shelves.

COME 'N GET 'EM.



YOU WANT TO KNOW

There're three different Nike-Hercules missile battery box cover assemblies—so you have three different stock numbers. And you can tell which one is for your outfit by the serial number of your missiles.

So to set things straight . . . here's how the assemblies tie in with the serial numbers.

Cover assembly, FSN 1420-620-8039, ORD P/N 9032499,

serial numbers 10001 through 10205.

Cover assembly, FSN 1420-767-0357, ORD P/N 8530498,

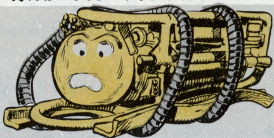
serial numbers 10206 through 10607.

Cover assembly, FSN 1420-776-1791, ORD P/N 8530421,

serial number 10608 through 10970, and 13001 through 13683.

THEY GO TOGETHER...

AN M3 AND ITS MOUNT

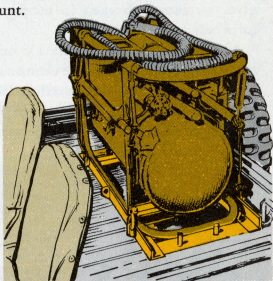


You've noticed, haven't you, that when you get one of the M3-series smoke generators you get it complete with a mount.

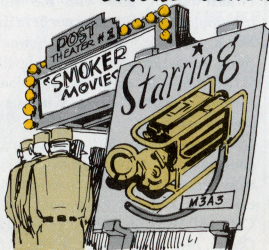
They're issued that way because the mount (it's called an M2 mount, and you need it for anchoring the smoke generator in a jeep or trailer) is a component part of the M3. It's supposed to stay with the generator for keeps.

Store this in your noggin so you'll always remember: Wherever the generator travels in the supply channels (issue, turn-in, third echelon storage), its mount goes also.

Of course, when a generator goes in for maintenance and she's scheduled to come back to you or she's to be stored in your unit, the mount doesn't have to tag along... but, any other time they stick close together.



SMOKE GENERATOR MOVIES



If you have an M3A3 smoke generator you should know about training films TF 3-3018 and TF 3-3019. You can get scads of maintenance and repair ideas from them.

You not only get maintenance and repair instructions but the new films give step-by-step demonstrations in assembly and disassembly of the M3A3.

Your nearest Signal Corps film and equipment exchange section can get them for you.

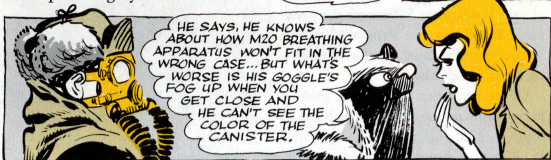
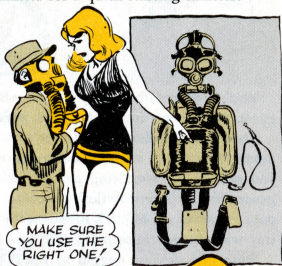
QUICK-STARTING CANISTER

Any time you plan to use your M13 oxygen breathing apparatus in cold weather be sure to swap its regular canister for a quick-starting canister.

The canister you'll need is: Canister, Oxygen Breathing (QS) FSN 4240-174-1365. This is the same cold-weather aid which you use with your M20 oxygen mask, and you can depend on it to give you instant oxygen in temperatures below 50°F.

Instructions for starting the QS one are printed on the side of the cannister.

You'll have no trouble in telling the canisters apart. The QS canister is painted green, the M13's regular canister is painted gray.

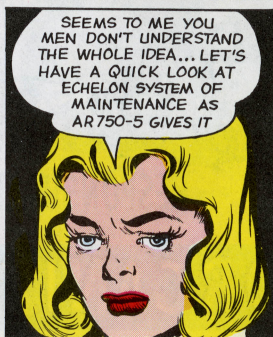
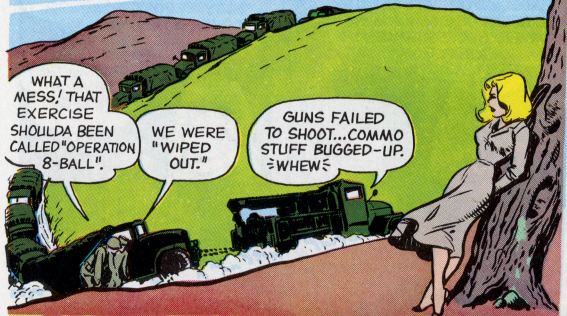


There's only one catch in this canister swapping deal. The QS canister (which usually goes with the M20 breathing apparatus) does not fit in the M13's carrying case—the lid won't close. So it's a matter of keeping the M13's extra QS canisters stored along with the mask, but not inside its carrying case.

You can get the QS canister through your normal supply channels from: Hqs, Army Chemical Center and Chemical Corps Materiel Command, Attn: CMLAM-M-SYD-2, Army Chemical Center, Md.

JOE'S DOPE

THE ECHELON SYSTEM FOR MAINTENANCE





FIRST ECHELON

Done By - USER (DRIVER, GUNNER, RADIOMAN, CREW)

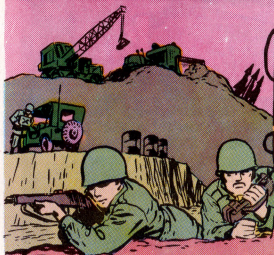
THE MEN IN THIS ECHELON ARE **USERS**...THEY DRIVE, SHOOT, OR OPERATE AND THEY CONCENTRATE ON KNOWING HOW TO USE EQUIPMENT RIGHT!



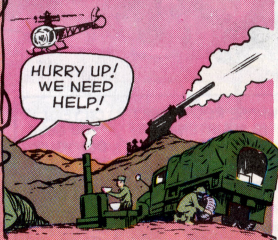
THEY DO THE **P M** SERVICES ...ANY WORK THEY CAN'T DO THEY REPORT TO HIGHER ECHELON!



COURSE, THEY SEND IN **UER'S**.



HURRY UP!
WE NEED
HELP!



RESPONSIBILITY:

Proper operation;
Preventive Maintenance;
Reporting Troubles.

ORGANIZATIONAL



FIRST ECHELON

Done By - **USER** (DRIVER, GUNNER, RADIOMAN, CREW)

THE MEN IN THIS ECHELON ARE **USERS**... THEY DRIVE, SHOOT, OR OPERATE AND THEY CONCENTRATE ON KNOWING HOW TO USE EQUIPMENT RIGHT!

THEY DO THE **P.M.** SERVICES... ANY WORK THEY CAN'T DO THEY REPORT TO HIGHER ECHELON!

COURSE, THEY SEND IN **UER'S**.

HURRY UP!
WE NEED
HELP!

RESPONSIBILITY:

Proper operation;
Preventive Maintenance;
Reporting Troubles.

ORGANIZATIONAL



SECOND ECHELON

Done By - **REPAIRMEN** (MECHANICS, ARTIFICERS, ARMORERS)

THE MAIN JOB OF THESE PEOPLE IS TO BACK UP THE FIRST ECHELON BOYS... GUIDE, AND SHOW 'EM HOW TO DO FIRST ECHELON WORK!

BUT THEY DON'T DO FIRST ECHELON WORK!

THEY HANDLE **PARTS** REPLACEMENT, MINOR REPAIR AND ADJUSTMENTS, LEND A HAND TO KEEP GEAR OPERATING, REPLACE PARTS ACTUALLY WORN OUT... FOLLOW **IROAN** * CONCEPT.

*Inspect, Repair Only As Necessary

And they do the scheduled 2nd Echelon maintenance services per the Maintenance Allocation Chart.

FOLLOW THE PROCEDURE I SHOWED YOU... SOON AS I REPAIR THIS PIECE AND RETURN IT, I'LL BE UP!

RESPONSIBILITY:

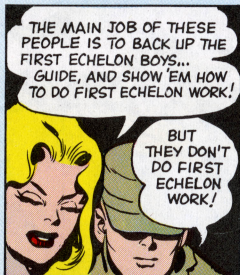
Back up 1st Echelon; Repair, Replace Parts; Service; Report other work to higher Echelon. They also send in UER's.

MAINTENANCE

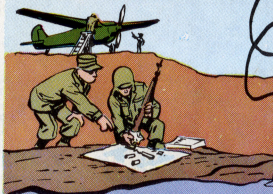
SECOND ECHELON

Done
By

REPAIRMEN (MECHANICS, ARTIFICERS, ARMORERS)



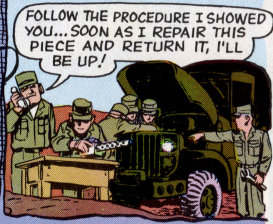
And they do the scheduled 2nd Echelon maintenance services per the Maintenance Allocation Chart.



RESPONSIBILITY:



*Inspect, Repair Only As Necessary



Back up 1st Echelon; Repair, Replace Parts; Service; Report other work to higher Echelon. They also send in UER's.

MAINTENANCE



Dope Sheet



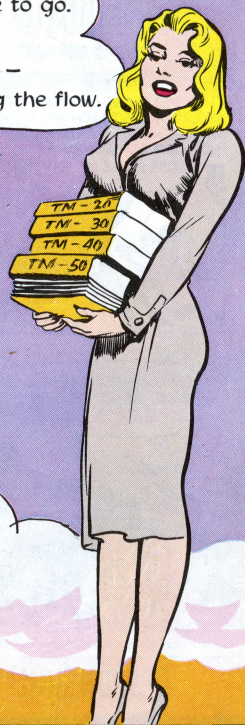
WE HAVE THE WORLD'S BEST EQ

Joe's

Dope Sheet

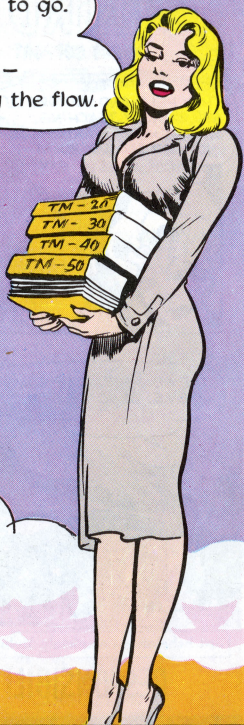


All the other Echelons, Joe,
Keep the FIRST in top shape to go.
They assist and advise —
Do repairs — keep supplies —
With Maintenance smoothing the flow.



WE HAVE THE WORLD'S BEST EQUIPMENT... *Take care of it*

All the other Echelons, Joe,
Keep the FIRST in top shape to go.
They assist and advise –
Do repairs – keep supplies –
With Maintenance smoothing the flow.



EQUIPMENT... *Take care of it*



THIRD ECHELON

DIRECT SUPPORT Done By — Your Tech Services

THEY HELP AND SUPPORT 1ST AND 2ND... BY TEACHING, SHOWING AND MAKING SURE 1ST AND 2ND DO WHAT THEIR **MAC'S*** SAY.



* Maintenance Allocation Charts

THEY CANNIBALIZE SOME ITEMS. ALSO SEND IN **UER'S.**



3rd Echelon is Completely Mobile

RESPONSIBILITY:

THEY REPLACE ITEMS, AND REPAIR AND RETURN THEM.



YEAH, THEY GOT MOBILE CREWS AS WELL AS SHOP OPERATIONS.

LISSEN, WE DO SECOND ECHELON WORK **ONLY** IN EMERGENCIES...WE'RE A HELP...NOT A CRUTCH SO DON'T COUNT ON THIS REGULAR.



Support, Aid Lower Echelons;
Replace, Repair, Return;
Limited Cannibalization.

FIELD



THIRD ECHELON

DIRECT SUPPORT Done By — Your Tech Services

THEY HELP AND SUPPORT 1ST AND 2ND... BY TEACHING, SHOWING AND MAKING SURE 1ST AND 2ND DO WHAT THEIR **MAC'S*** SAY.



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Support, Aid Lower Echelons;
Replace, Repair, Return;
Limited Cannibalization.

FIELD



FOURTH ECHELON

GENERAL SUPPORT Done By — Your Technical Services

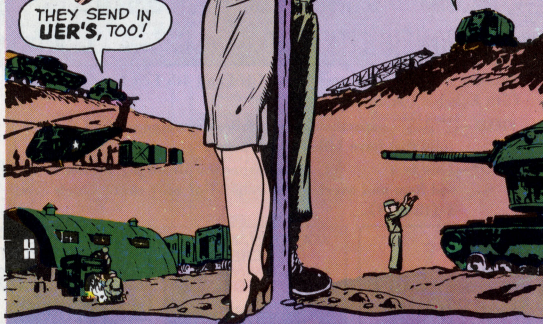
THESE FELLOWS REPAIR MAJOR ITEMS AND ASSEMBLIES. THEY'RE ALSO THE OVERFLOW STATION FOR THIRD ECHELON.



THEY SEND IN **UER'S**, TOO!

THEY ALSO CAN CANNIBALIZE... REPAIR-'N'-PUT-BACK IN LOCAL STOCK!

THEY BACK UP DIRECT SUPPORT.



4th Echelon is Semi-Mobile

RESPONSIBILITY:

Back up support;
Repair, Put in stock;
CANNIBALIZE

MAINTENANCE



FOURTH ECHELON

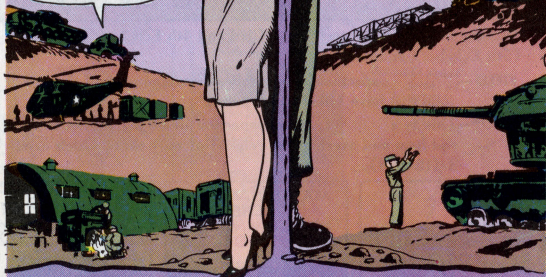
GENERAL SUPPORT *Done By—* Your Technical Services

THESE FELLOWS
REPAIR MAJOR ITEMS
AND ASSEMBLIES.
THEY'RE ALSO
THE OVERFLOW
STATION FOR
THIRD ECHELON.

THEY ALSO CAN
CANNIBALIZE...
REPAIR-'N-PUT-BACK
IN LOCAL STOCK!

THEY BACK UP
DIRECT
SUPPORT.

THEY SEND IN
UER'S, TOO!



4th Echelon is Semi-Mobile

RESPONSIBILITY:

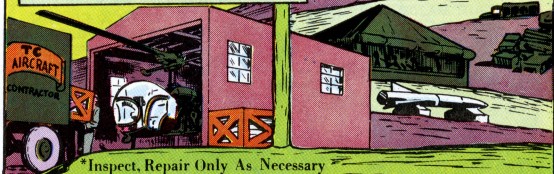
Back up support;
Repair, Put in stock;
CANNIBALIZE

MAINTENANCE

FIFTH ECHELON

Done By—Depots or By Contract

They do major overhaul of end items and rebuild assemblies for stock ...
IROAN* all the way.



*Inspect, Repair Only As Necessary

DEPOT MAINTENANCE

RESPONSIBILITY: Major Overhaul; Complete Rebuild.

The big difference between field (3rd and 4th Echelon) and depot (5th Echelon) maintenance:

FIELD — **REPAIRS** specific subassemblies or components of the end item that have failed or worn out.

DEPOT—This is a **SYSTEMATIC** inspection of all assemblies in the end item and overhaul or rebuild of only those which need it (IROAN).

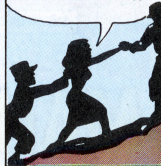
ALL ECHELONS:
USE **M A C**
SUBMIT **UER'S**.
KEEP MAINTENANCE
RECORDS.
PERFORM
MODIFICATIONS.



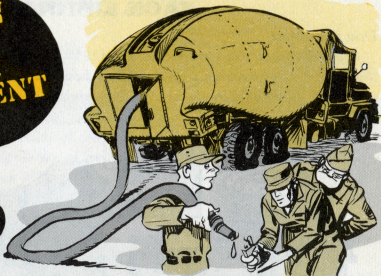
MAINTENANCE AT
ALL ECHELONS
IS A **COMMAND**
RESPONSIBILITY!



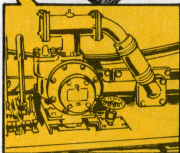
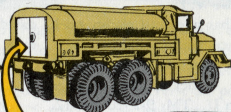
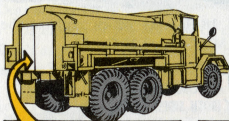
EACH ECHELON
HAS THE SUPPORT
OF THE ONE
ABOVE IT AND
SUPPORTS THE
ONE BELOW IT.



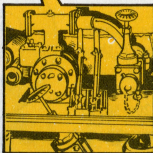
QUESTION AND ANSWER DEPARTMENT



TANKER PUMP OUTPUT



M 49 PUMP



M 50 PUMP

RATINGS FOR
BOTH PUMPS
SHOULD READ
80 GPM AT
700 RPM.



Dear Half-Mast,

Change 4 (1 Jul 59) corrects para 367b of TM 9-8022 (17 Dec 54) on the Gallons-Per-Minute rating of the gas and water delivery pumps in the M49 gas tanker and the M50 water tanker. The right rating's 80 GPM at 700 RPM.

But what about the rating listed in para 382b of the same TM... and also in para 65b(1) of TM 9-8023-4 (13 Oct 55)? Shouldn't all three be the same?

J. M. E.

Dear J. M. E.

Right on the button. In all three places in those TM's, the delivery pump ratings for the M49 and M50 should read 80 GPM at 700 RPM.

FACE LIFTING

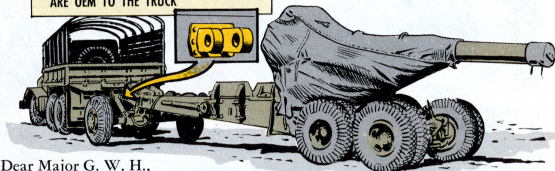
Dear Half-Mast,

Our 8-inch howitzers are towed by M125, 10-ton, cargo trucks by removing the limbers and attaching a special heavy-duty pintle to the truck.

Can you tell us . . . is the special duty pintle a component of the howitzer or the truck?

Major G. W. H

DRAWBAR AND TRAIL CLAMP
ARE OEM TO THE TRUCK



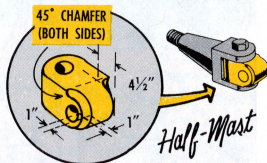
Dear Major G. W. H.,

The drawbar and trail clamp work as a team when hauling your howitzers and are both presently set-up as OEM to the truck . . . they're listed on page 328, Section II, TM 9-2320-206-12, dated Feb 60.

But before you use the set-up check with your support unit and see if they have made the latest fix that'll make your coupling job easier. The fix is authorized by MWO 9-2320-206-30/7,

dated 18 Jan 61 which replaces the same MWO dated 27 Oct 60.

This latest fix looks like this:



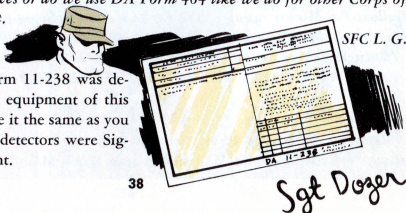
TRUE TO FORM

Dear Sgt Dozer,

The Engineers now have the maintenance responsibility for mine detectors. Do we use DA Form 11-238, Maintenance Check List for Signal Equipment, to record our PM services or do we use DA Form 464 like we do for other Corps of Engineer equipment.

Dear SFC L. G.,

Since the DA Form 11-238 was designed for use with equipment of this type, continue to use it the same as you did when the mine detectors were Signal Corps equipment.



SLAVING AWAY



Dear Half-Mast,

Can you slave with all models of the M59 APC?

Could you reverse the polarity of an M41A1 tank (that has four 6TN batteries) by slaving it with an M75 APC (which has two 6TN batteries)?

Which vehicles have their batteries positively grounded and which are grounded at the negative battery terminal?

Where can I find the dope on checking out slave cables and the way to slave different vehicles?



HOT

SFC D. O. W

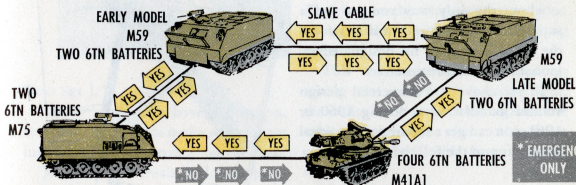
HOT



Dear SFC D. O. W.,

All models of the M59 APC, early and late, can be used to slave each other. Don't use them to slave tanks that carry four 6TN batteries (unless you absolutely have to) because it is too much of a strain on the two 6TN batteries of an APC.

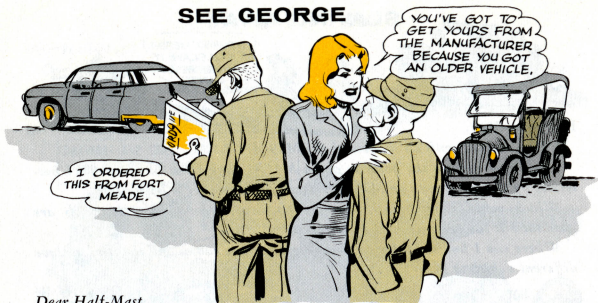
If your slave cable hook-up was right, you wouldn't reverse the polarity of an M41A1 tank by slaving it with an M75 APC. If you had a crossed-up slaving cable, it might drain all the batteries in the circuit, and maybe burn the cable and do other damage—but it wouldn't reverse your tank's polarity, unless, in addition to the crossed-over slaving cable, you also had a GE control box in the tank. If you have the slave cables hooked up right, the only danger is running down the APC's batteries by giving them too tough a job.



All late model tactical vehicles have negative ground batteries. This includes the M75 and M59 APC's and the M41 tank series.

TB ORD 537 (20 Sept 56) or PS 85 page 10-14 will give you all you need to know about slaving. Follow out what they say and you won't have any slaving worries.

SEE GEORGE



Dear Half-Mast,

I'm trying to find a parts list or supply manual for commercial vehicles like the 2½-ton M424 and the 37-passenger GMC bus.

We have in this command several of these vehicles and must use the phone and call the issuing unit every time we need a part to keep the buses running.

With our missile site mission, it is important that our buses be kept in a good state of ready repair. Any information you can give us will be greatly appreciated.

SFC G.W.B.

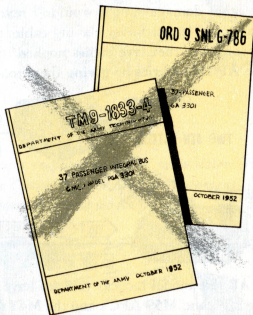
Dear SFC G.W.B.,

You'll no longer be able to get an Army supply manual for commercial design vehicles if you've got a vehicle manufactured before 1960.

About the only way you can get a supply manual is to get it direct from the manufacturer or his designated regional service representative.

If you have a commercial design vehicle manufactured during 1960 or 1961, you can get a repair parts manual by writing to the following address:

COMMANDING OFFICER
USA TRANSPORTATION ADMINISTRATIVE
TRANSPORT MANAGEMENT AGENCY
FORT GEORGE G. MEADE, MARYLAND.



CABLE GUIDE

Dear Half-Mast,

Here's how we got rid of the cable snafu on the Federal NC-10 cranes at our Nike site.

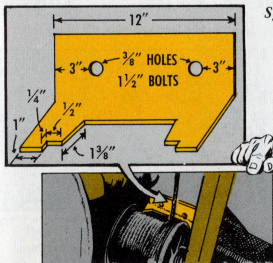
We made a guide out of 3-in angle iron and installed it inside the boom pivot weldment directly in front of the boom topping winch.

Now the cable can't wind around the drum shaft and shear off the bolts on the shaft flange end. And it can't shove the drum support shaft so far out that it'll smash the high-pressure hydraulic lines running down next to the drum and to the lower swivel just under the winch drum.

What do you think of this answer to the problem?



Sgt J. T.



If the cable ever does start to override the drum ends, slow down pronto. Then inspect the whole set-up real good to see if the tension roller's lined up right.

Dear Sgt J. T.,

OK, if you really have a problem. But first you want to make sure it's not just an operator messing up the deal.

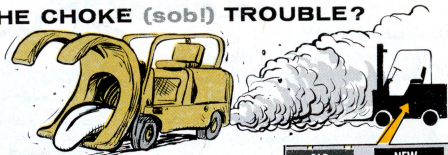
The winch motor's hydraulic-powered, y'know, and is controlled from the driver's seat. Too much speed when you're lowering the load and failing to slow up the cable drum when the load is grounded lets the cable over-wind. Then it'll jump the drum ends.

This tension roller's mounted on spring steel arms. If it's installed right, the roller'll be in position against the cable and the inside of the cable drum ends to keep the cable from jumping the drum.

Incidentally, this cable snafu problem's come up before at other sites. One guy solved it the same way you did, except that he anchored his guide on the outside of the boom pivot weldment.

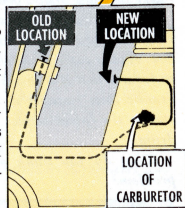
Half-Mast

MHE CHOKE (sob!) TROUBLE?



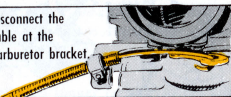
A choke's a choke, sure, but sometimes it can go too far. Like the one on the 2000-lb Yale & Towne KG51T-20H-RS53 forklift. Then you have trouble working it and working on it.

But, why sweat? Just move the choke from the instrument panel to the engine cowl and your problem's gone. No more taking up the floor plate to do your PM ... no more over-size line to fuss with ... no more 90-degree angles to foul you up.



Here's the cure. Try this the next time you have to replace the control assembly:

1. Disconnect the cable at the Carburetor bracket.

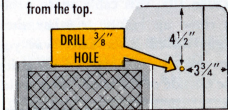


2. Remove the floor plate and disconnect the clamps holding the cable under the floor. Then replace the floor plate.

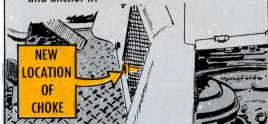


3. Disconnect the hand choke at the instrument panel and pull the entire assembly through the panel.

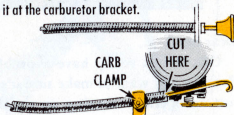
4. Drill a $\frac{3}{8}$ -in hole in the engine cowl to the left of the operator's sitting position— $3\frac{3}{4}$ inches from the side and $4\frac{1}{2}$ inches from the top.



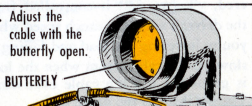
5. Put the control assembly through this hole and anchor it.



6. Measure the cable at the carburetor bracket for the right length and cut it. Then anchor it at the carburetor bracket.



7. Adjust the cable with the butterfly open.



A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins.

TECHNICAL MANUALS

TM 1-1H-13E-4-20P Apr.
TM 1-1H-19A-20P Mar.
TM 1-1H-23A-4-20P Apr.
TM 1-1H-23D-1014 Apr. (Insp. R-Hand Support Cooling Fan Drive Gear Box).
TM 1-1L-23D-4-20P Feb.
TM 1-1U-1A-4-20P Mar.
TM 1-4A4-1-32 Feb. Maint. Instruc., All Wheels and Brakes.
TM 1-5N3-3-4-1 Feb. Install, Op., Maint., Test Standby Compass.
TM 1-5P3-3-2-1 Mar. Landing Wheels and Flag Position Indicators Type AN-5780.3.
TM 3-1040-215-12 Apr. Irritant Gas Dispenser, Heli or Vehi-Mid, MA.
TM 5-1940-200-12 Feb. Bridge Erect Highway Products Mod HP 1278 Marinette Marine Mod A27.
TM 5-2805-210-20P Apr. Eng., Gas Cont. Motors Mod FS 244.
TM 5-2815-200-15 Mar. Eng., Diesel, GM, Series 71.
TM 5-2815-208-12 Apr. Eng., Diesel Cont. Model TD427.
TM 5-3805-206-20P Mar. Intrenching Machine, Combat Hi Spd Barber-Greene Mod 750.
TM 5-3805-211-20P Mar. Grader, Road, Air Trans Let-West Mod 220.
TM 5-3805-214-15, -20P Mar. Loader, Scoop Type: 1/2 Cu Yd Hough Mod H-30M.
TM 5-3805-224-15, -25P Mar. Scraper, Earthmoving, Towed: 7 1/2 Cu Yd Murray Mod AR 775.
TM 5-3895-239-12P Jan. Dryer, Barber-Greene Mod 830.
TM 5-4120-204-20P Mar. Air Cond., 60,000 BTU Ellis and Watts Mod A-60.
TM 5-4320-208-25P Mar. Pump, Cent Gas Driven, 125 GPM 50 Ft Head MIL-P-52109 (CE).
TM 5-4320-211-20P Mar. Pump, Cent Pet. Kurz Root Mod Baldy 1.
TM 5-4330-200-15 Apr. Separator, Water, Lih, Fuel Warner Lewis Mod VFCS 1061-9A2ANW.
TM 5-4610-200-12 Mar. Water Purif. Unit 400 Gal Per Hr. Permitt Mod 600.
TM 5-5130-202-15 Mar. Saw, Recip Port, Pneum Boston Pneum Mod Badger.
TM 5-6115-291-15 Mar. Gen Set 60KW, Lumen Mod 2207.
TM 5-6115-292-15 Feb. Gen Set Diesel 150KW Cummins Mod NVH-12-G-150KW-AC.
TM 5-6675-206-15 Mar. Geodimeter Mapping and Surveying Svenska AB Gas Accumulator Mod NASM-2A.
TM 9-1015-200-20P Feb. 81-mm Inf Mortar.
TM 9-1015-203-20P Mar. 105-MM Towed How M101, M101A1.
TM 9-1430-250-20P/11 Apr. Radar Dir Cent (Hiper Acq 25 & 50 Foot Tower).
TM 9-1430-253-20/3 Mar. Prev and Corr Maintenance Hiper (Herc).
TM 9-2320-206-20P Apr. Truck Tractor, 10-Ton, M123, Truck, Cargo: 10-Ton, M125.
TM 9-2330-203-14, -24P Mar. And Apr Dolly, Trailer Converter: 6-Ton, M197, M197A1 and 8-Ton, M198, M198A1.
TM 9-2330-212-14 Mar. Trailer, Flat Bed; M243, M261, M261A1, Trailer, Low Bed; M260, M260A1, M406, etc. (Nike).

TM 9-2330-255-14 Mar. Trailer, Low Bed: 7-Ton, XM529.
TM 9-2350-209-20P Apr. Haw. SP. 105-MM, M52 and M52A1.
TM 9-2350-214-20 Jan. Tank, 120-MM Gun, M103A1.
TM 9-6920-214-20P Mar. 318-MM Little John Trng Rkt Set X3 G-76.
TM 10-4110-205-20 Mar. Refrig Unit, Mech. (Thermo King Z9 and Q9A).
TM 10-5430-202-15 Apr. Tank, Lih Fuel, Collaps 3,000-Gal Cap.
TM 10-7360-201-10 Mar. Bakery Plant, Mobile.
TM 10-8415-201-25P Mar. Helmet, Combat Veh Crewman's.
TM 11-649 Mar. Radio Receiving Set AN/FRR-41.
TM 11-2374A Mar. Printer, PH-95-B, Photog Proj Printer, EN-40A.
TM 11-5410-204-12P Mar. Shelter, Elec Equip 589C/G.
TM 11-5528 Mar. Recorder-Reproducer RD-7A1.
TM 11-5805-240-20P Mar. Repeater, Telephone AN/TCC-11.
TM 11-5805-246-20P Apr. Term, Telegraph TH-5 TG.
TM 11-5805-247-20P Apr. Converter, Telegraph Telephone Signal TA-182/U.
TM 11-5805-262-20P Apr. Switchboard, Telephone, SB-22/PT.
TM 11-5805-322-20P Mar. Term, Telegraph-Telephone (Voice Plus Telegraph Terminal), Stelma Mod VPT-1.
TM 11-5815-210-25P Mar. Cent Office, Teletypewriter AN/MCC-9.
TM 11-5815-277-15 Mar. Teletypewriter T1-262/FG.
TM 11-5820-289-20P Apr. Radio Set AN/GRC-10.
TM 11-5820-348-20P Mar. Ant Equip, RC-292.
TM 11-5820-352-15, -25P Mar. Transmitting Set, Radio, AN/MRT-9.
TM 11-5820-353-15 Mar. Receiving Set, Radio AN/MRR-8.
TM 11-5820-357-20 Mar. Radio Receiver R-390/URR.
TM 11-5820-400-20P Mar. Transmitter, Radio T-409/FRC-30.
TM 11-5820-419-20P Mar. Receiving Set, Radio AN/FRR-33.
TM 11-5820-423-25P Mar. Receiving Set, Radio AN/FRR-40 and AN/FRR-41.
TM 11-5820-433-12P Apr. Conversion Group, Repeater AN/TBA-15.
TM 11-5821-217-20P Mar. Radio Set AN/ARC-23.
TM 11-5825-219-14 Mar. Beacon, Radio AN/FRN-23.
TM 11-5826-218-12P Apr. Comput Set, Navlog AN/ASN-33.
TM 11-5830-232-20P Apr. Acq Interphone Equip AN/VIA-1.
TM 11-5835-215-10 Apr. Recorder-Reproducers RD-31C/U RD-71D/U.
TM 11-5841-219-12 Mar. Navlog Set, Radar AN/APN-129 (V12).
TM 11-5895-221-25P Mar. Radio Term Set AN/MRC-73.
TM 11-5895-222-25P Mar. Teletype Opr Cent AN/MCC-19.
TM 11-5895-223-15 Mar. Ops Cent Comma AN/MSC-31.
TM 11-5895-224-25P Mar. Ops Cent AN/MSC-32.
TM 11-5895-281-15P Mar. Ops Cent AN/F5Q-34.
TM 11-5985-200-12, -20P Mar. And Apr Ant. Grp AN/ARA-31 & Switch Assy SA-474/AR.

TM 11-5985-226-15P Apr. Dummy Ant TS-329/U.
TM 11-6115-208-20P Mar. Power Unit PU-26A/U.
TM 11-6130-218-20P Mar. Power Supply PP-1104A/G.
TM 11-6140-202-25P Mar. Battery Storage BB-422/U.
TM 11-6605-200-20P Mar. Compass, Magnetic, Aircraft J-2 Sys & Repeat Amp Assy 8-7A.
TM 11-6615-201-20P Mar. Auto Pilot AN/ASN-22.
TM 11-6625-343-15 Mar. Test Set, Transistor TS-1100/U.
TM 11-6625-354-12 Mar. Manual Recorder Set, Radiation Pattern, Radio Frequency AN/PPM-45.
TM 11-6625-367-20P Mar. Sound Analyzer TS-618/U.
TM 11-6625-391-20P Mar. Test Set, Radio AN/ARM-52.
TM 11-6625-392-12P Mar. Test Set, Transponder Set AN/URM-125.
TM 11-6655-201-10 Mar. Solar Radiation Measuring Set AN/GVH-1A.
TM 11-6660-218-15 Apr. Meteorological Station Manual AN/TMQ-4.
TM 11-6710-201-20P Mar. Camera, Motion Pic KS-5 (1); PH-320-G, H, J.
TM 11-6720-213-10 Mar. Camera Set, Still Pic KS-19A2.
TM 11-6740-209-10 Mar. Dryer PH-75-B, Drier, Photo Print EL-5(1).
TM 11-6780-206-20P Mar. Photo Accessory Kits LF-1(1) and LF-1(2).
TM 11-6930-200-12P Mar. US Army Device 1-CA-1 Trainer, Instrument, Basic.
TM 38-660-1 Mar. Op. Maint. Instructions Adm. Vehicles.
TM 55-1520-207-10, -20 Mar. HU-1A.

DA FORMS

DA Form 9-34 Mar. Herc Daily Check Sheet.
DA Form 9-90, -93 and -96 Mar. Herc Weekly Check Sheets.
DA Form 9-119 Mar. (Herc) Check Sheet -Air and Oil Ser of Ace Pr Sup.
DA Form 9-195 Mar. Improved Herc-Weekly Check Sheet.
DA Form 9-196 Mar. Improved Herc-Monthly Check Sheet.
DA Form 12-5 Feb. Req for A/C Pub.
DA Form 55-129 Apr. Req for Motor Trans.
DA Form 2391-1 Mar. A/C Flight Report.
DA Form 2391-2 Mar. A/C Inspect & Maint.
DA Form 2391-3 Mar. A/C Record-Delayed Correction Discrepancy List.
LO 5-2420-201-20, 1, -2 Apr. Tractor, Wheeled, M-R-S Mod 100-4x4, Ser 8.
LO 5-3895-241-15 Feb. Kettle, Hoisting, Bitt, 100 Gal, (Aeroil Models) KE-RA-100 K and KE-RA-100-LPG.
LO 5-4310-219-20 Mar. Comp Air, Rot Ingersoll Rand Mod DR-600.
LO 5-6115-237-20 Apr. Gen Set, 100 KW, Canol Diesel Mod 4115.
LO 5-6115-248-20 Apr. Gen Set, Dies Eng 30 KW US Motors Mod 30-US-16936.
LO 5-6115-259-20 Mar. Gen Set, 5 KW, Kurz and Root Mod ERIC 1.
LO 5-6115-273-15 Apr. Gen Set, Dies Eng 60 KW, AC, Cummins Mod JS-6-G-60 KW-500 Cycle.
LO 9-1430-253-20/1B Mar. Acq Ant-Rec-Trans Group OA-1601/T.

MISCELLANEOUS

MWO 9-1410-250-20/2 Apr. Repl Ther Bar Lonyard Assembly (Herc).



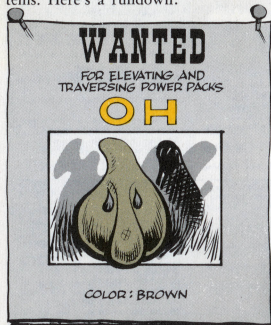
HYDRAULIC

There's no sweat keeping the right kind of hydraulic fluid in your recoil or hydraulic system when you've got the exact oil on hand that your LO's call for. But . . .

. . . things get a bit sticky when your system needs fluid and either you don't have the oil the LO requires . . . or your LO doesn't pin down the specific type of fluid.

But, to start at the beginning . . .

Of all the hydraulic fluids in the supply system, the most widely used are those with a petroleum base. These are mineral oils, and they're never used in brake systems because they're death on rubber gaskets and seals. These oils get their biggest use in hydraulic power systems and turret and field artillery recoil systems. Here's a rundown:



Hydraulic Fluid, Petroleum Base: Fire Control, (OH) Spec MIL-A-13919A. This is a refined mineral oil with a pour point of -50 degrees F.

It is not used in recoil mechanisms but serves as the hydraulic fluid in some power systems. For instance, it's called for in the elevating and traversing power pack for the 155-mm self-propelled howitzer and in the hydraulic power pack in the M48A2 tank in temperatures above zero degrees.

In real cold weather this OH is usually replaced by OHA or OHC.





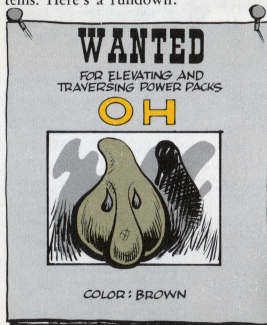
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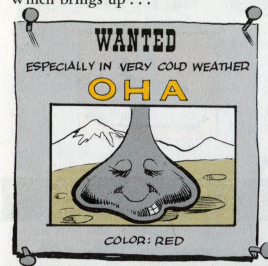
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FLUID

Which brings up . . .

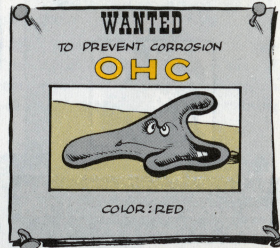


Hydraulic Fluid, Petroleum Base: Aircraft and Ordnance (Spec MIL-H-5606A, with amendments, depending on when the oil was bought). Its military symbol is OHA.

OHA comes in only one type. It's red and has a pour point down to -75 degrees F. But it does not have any anti-corrosion additives. It's one of the big guns in the hydraulic line and is used in recoil systems and other hydraulic systems. It's known as "Pink Lady" because of its color.



With OHA as a starting point, the white-coated men with the test tubes developed another oil by adding some stuff that gave the oil good anti-corrosion qualities. This oil came out as:



Hydraulic Fluid, Petroleum Base, Preservative: (OHC) MIL-H-6083A, Type I.

Later a new oil came out—known as MIL-H-6083B, Type I. But these two oils—Type I of 6083A and 6083B—are basically the same and they can be used to replace each other, or can be mixed with each other.

And not only that—when the situation makes it necessary, either of these two Type I OHC oils can be mixed with OHA oil. If you do this in a recoil mechanism, however, you should replace this mixture with the oil the LO calls for just as soon as possible. TB ORD 586 (30 Apr 56) has the low-down on this.

There's one big exception to this however—so pin this behind your left ear: Never substitute OHC for OHA in Nike-Ajax and Nike-Harcules equipment. And don't mix 'em, either. Stick to what the LO says.

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Another hydraulic oil that gets a lot of use in some of the older type recoil mechanisms is "Green Dragon."



That's Hydraulic Fluid, Petroleum Base: Recoil Special (Spec MIL-H-13866a). Its symbol is RS.

It, too, can be mixed or interchanged with OHA or OHC (Type I) on an emergency basis.

Still another hydraulic oil that sees lots of duty around Nike sites is



Hydraulic Fluid, Petroleum Base: Spec MPD-2067.

Nike power packs and tests stands will only take this MPD or MIL-H-5606A. If you get some other oil in there by mistake, drain and flush it soonest.

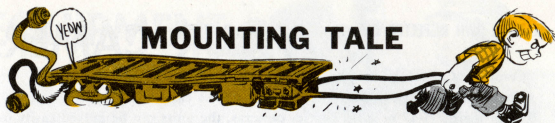
So, the next time your hydraulic system needs oil:

1. Double check what oil the LO calls for.
2. Read the label on the oil container very carefully.

SM 10-1-C4-1 (Sept 59) gives you the dope on these and other oils, including the FSN's.

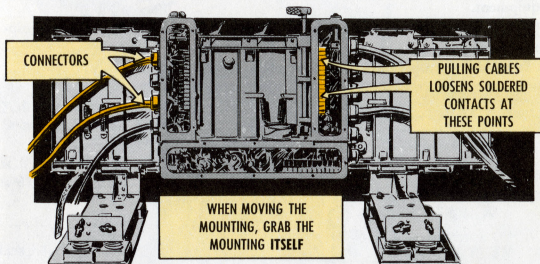
You may have oil with the letter "O" in the MIL-Spec instead of "H." Use it. It's the same as the "H."

TYPE	COLOR	USES AND CHARACTERISTICS	KNOWN LIMITATIONS
OH (MIL-A-13919)	Brown	Elevating and traversing power packs, hydraulic power packs.	Contains no cold weather or anti-corrosion additives.
OHA (MIL-H-5605 w/amendments) (NATO Symbol H-515)	Red	Replaces OH in very cold weather. Pour point: -75 degrees. Hydraulic lines, recoil and hydraulic systems.	No anti-corrosion additives.
OHC—TYPE I MIL-H-6083A MIL-H-6083B (NATO Symbol C-635)	Red	Used in recoil and hydraulic systems. Oil "A" can be used to replace oil "B", or vice versa. Both can be mixed with OHA in an emergency. OHC replaces OH in hydraulic power systems when mercury goes below zero.	None. Can do everything OHA can, plus help preserve the system it's in.
RS (MIL-H-13866)	Green	Widely used in older type recoil mechanism. Can be mixed with OHA or OHC Type I when necessary.	Contains no cold weather or anti-corrosion additives.



It's tempting—and almost seems the natural thing to do.

Whenever you want to move an MT-298/GR Mounting from here to there—just grab it by the tail, so to speak. You're tempted to pull it by one or more of the connecting cables dangling loose from the junction box. That'll sure enough get the mounting closer, but it could spell trouble for the tail and the mounting . . . and you.



Thing is, those cables carry a mess o' wires into the junction box. Each wire, of course, is soldered to an inside contact point. Since those contacts are designed only to carry an electrical load, any other kind will break 'em loose and dismount your mounting.

But if the rubber washer inside the cable connector is missing or slipping, the full pull of a yank will ripple right up to those sensitive contact points. The rubber washer, naturally, is designed to snug up and make waterproof that connector. But it also prevents any yanks and jerks from being felt inside the junction box.

So always handle the mounting itself, rather than its cables, whenever it has to be moved. And, whenever a cable is being reinstalled, check to see that the rubber washer inside the connector is snugged into place before tightening up on the bondnut.

'Cause if there's any in-and-out "play" on the cable, your contact points will snap—and that'll be that.



BE YOUR OWN INSPECTOR ON ...

YOUR CAMERA

Compact. Capable of taking a wide range of pictures. Easy to use.

That briefly describes your PH-104, and KS-4A camera equipment.

With their PH-47 or KE-12-series cameras, the units can be moved easily to shoot bridges being built by the engineers ... visiting VIPs ... award presentations ... rumbling tanks ... and even for copying other photos or maps.

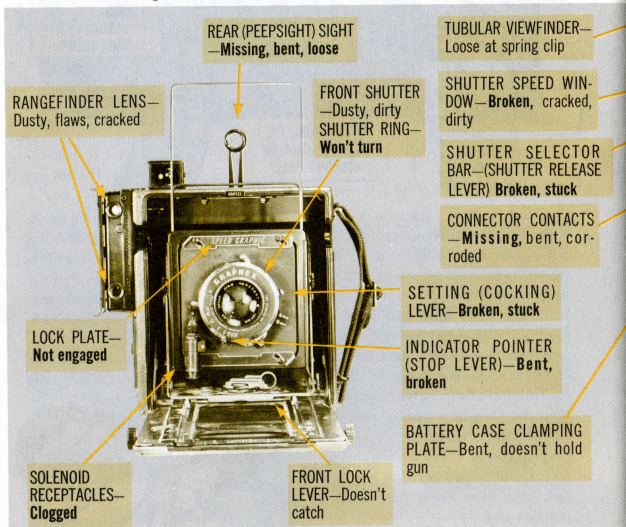
But they can give topnotch results only if you keep them in good shape.

Perhaps the best feature of PM for the PH-104 and the KS-4A is that it can be completed in a matter of minutes.

Here's a rundown on things to look for before, during and after the use of equipment.

Conditions in **bold type** are serious and should be corrected before the equipment is used.

Items shown in parenthesis refer to other camera models.



BE YOUR OWN INSPECTOR ON ...

YOUR CAMERA

Compact. Capable of taking a wide range of pictures. Easy to use.

That briefly describes your PH-104 and KS-4A camera equipment.

With their PH-47 or KE-12-series cameras, the units can be moved easily to shoot bridges being built by the engineers ... visiting VIPs ... award presentations ... rumbling tanks ... and even for copying other photos or maps.

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REAR (PEEPSIGHT) SIGHT
—Missing, bent, loose

RANGEFINDER LENS—
Dusty, flaws, cracked

FRONT SHUTTER
—Dusty, dirty
SHUTTER RING—
Won't turn

TUBULAR VIEWFINDER—
Loose at spring clip

SHUTTER SPEED WINDOW—**Broken**, cracked, dirty

SHUTTER SELECTOR BAR—(SHUTTER RELEASE LEVER) **Broken, stuck**

CONNECTOR CONTACTS
—**Missing**, bent, corroded

SETTING (COCKING) LEVER—**Broken, stuck**

INDICATOR POINTER (STOP LEVER)—**Bent, broken**

BATTERY CASE CLAMPING PLATE—**Bent**, doesn't hold gun

SOLENOID RECEPTACLES—
Clogged

FRONT LOCK LEVER—Doesn't catch

LOCK PLATE—
Not engaged

EQUIPMENT



REMOVABLE MASK OF TUBULAR VIEWFINDER—Not in place

VIEWFINDER LENSES
—Dusty, cracked, flaws

BELLOWS—Leak

(BODY SHUTTER RELEASE)—
Broken, stuck

RIISING FRONT—Not in proper place for normal use

SHUTTER BLADE ARRESTER (PRESS FOCUS BUTTON)—
Doesn't work

CABLE RELEASE BRACKET—Loose

LENS—Dusty, finger-printed, scratched, flaws

SHUTTER TRIGGER—**Stuck**
(SHUTTER RELEASE LEVER)—
Missing, loose, broken

SPEED CONTROL LEVER
—**Broken, stuck, bent**

RIISING FRONT LOCK NUTS—Loose, missing

CARRIAGE LOCK LEVER
—Loose, doesn't hold

RANGE LIMIT (INFINITY) STOPS—**Broken**

SPRING CATCH
—**doesn't hold**

MANUAL TRIP ARM—**Bent or broken**



EQUIPMENT



REMOVABLE MASK OF TUBULAR VIEWFINDER—Not in place

VIEWFINDER LENSES
—Dusty, cracked, flaws

BELLOWS—Leak

(BODY SHUTTER RELEASE)—
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SHUTTER BLADE ARRESTER
(PRESS FOCUS BUTTON)—
Doesn't work

CABLE RELEASE
BRACKET—Loose

LENS—Dusty, finger-
printed, scratched, flaws

SHUTTER
TRIGGER—Stuck
(SHUTTER RELEASE LEVER)—
Missing, loose, broken

SPEED CONTROL LEVER
—Broken, stuck, bent

RIISING FRONT LOCK-
NUTS—Loose, missing

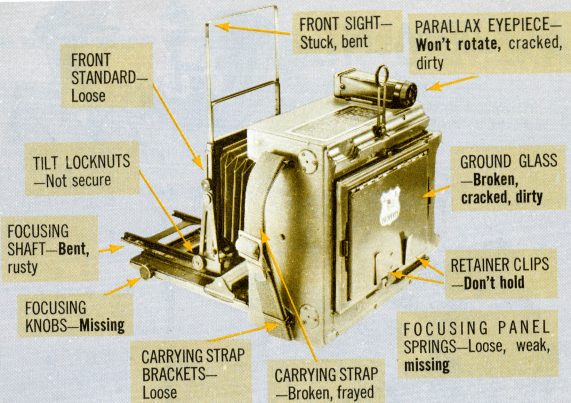
CARRIAGE LOCK LEVER
—Loose, doesn't hold

SPRING CATCH
—doesn't hold

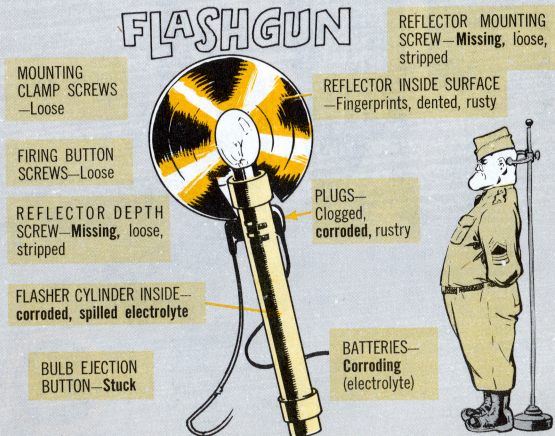
RANGE LIMIT
(INFINITY)
STOPS—Broken

MANUAL TRIP
ARM—Bent or
broken



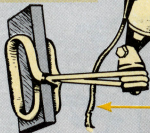


FLASHGUN



BULB EJECTION
BUTTON—**Stuck**

PLUGS—
Corroded, bent



EXTENSION
CORD—Frayed,
cut, kinked

SIDE LIGHTING UNIT

REFLECTOR INSIDE SURFACE
—Fingerprints, dented, dusty

REFLECTOR DEPTH
SCREW—**Missing**, loose,
stripped

MOUNTING SCREW—
Missing, loose, stripped

Accessories



LENS COVER—
Missing

LENS HOOD—
Missing, chipped,
scratched

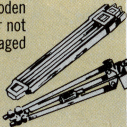


FILTERS—**Flaws**,
scratches, fingerprinted,
dusty



TRIPOD (WOODEN)—Wooden
parts cracked, warping or not
aligned; metal parts damaged
or worn

(METAL)—Threads
stripped; too tight; rub-
ber feet missing



CARRYING CASE—Holes;
hasps loose, bent or broken;
metal parts loose; handle
broken or loose

CONNECTING CORD—
Frayed, cut, kinked



CABLE RELEASE
—cut, kinked,
frayed, stuck



FOCUSING
CLOTH—**Missing**



FILM HOLDER—Slide hooks
missing, loose, bent; **light**
leaks in



HINGED RETAINING
STRIP—**Broken**, missing



FILM PACK ADAPTER—Bent;
slide missing, damaged; cov-
er release studs broken

WEB STRAP—Frayed,
cut; metal parts broken,
bent or missing

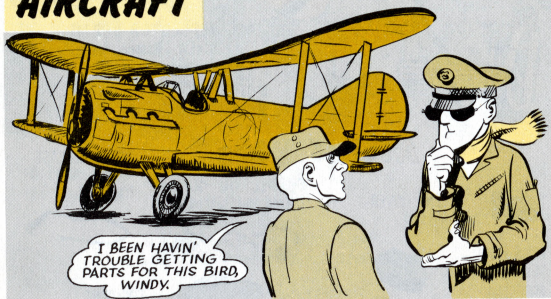


The KS-4A also contains a bayonet lamp adapter, a shutter connecting cable, lens tissue pads and a filter kit. The adapter should be checked for corroded contacts. PM for the cable calls for spotting kinks, frays or cuts.

FORMS—DA Form 11-254 should be filled in and kept up to date.

ARMY AIRCRAFT

THE 3 R's



Like the old pros always say: You just can't have good maintenance without a good supply line.

And one of the latest snafus in the bird supply operation might be due to a lot of people not realizing some of the big parts on your aircraft come under the category of "out-of-production items." Which means those parts are not being manufactured any longer.

So it figures that if they're reparable but not returned for repair to higher echelons, then they can't be repaired and dumped right back into the supply funnel for reuse at the bottom. Just can't keep using up a limited number of nonreplaceable parts without ever reversing the flow of those parts... now can you?

Given enough time, for example, you could be grounding every Beaver

(L-20) on your ramp for lack of engines (2810-624-0648), oil coolers (2935-328-3434), brake assemblies (1630-528-1385) or carburetors (2915-328-0978) ... even though a whole mess of the same parts are lying around hangars in an unserviceable, but reparable condition.

Naturally, things would never get that bad. If you didn't keep passing the word to move those reparable parts along every time you noticed one, and depot stocks got down too low, you could expect to see some high-level maintenance types out roaming the hangars.

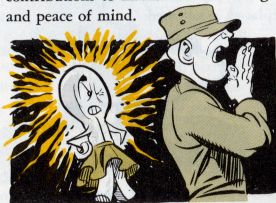
The worst part of it is that they'd be looking for the same parts you were asking them for ... and that's no way to keep your critters flying.

LIKE A LITTLE LADY



When you get right down to it, cotter pins have a great deal in common with the female of the species.

They need a lot of care and attention and you've got to handle 'em just right. And there's just no substitute for their contributions to mankind's well-being and peace of mind.

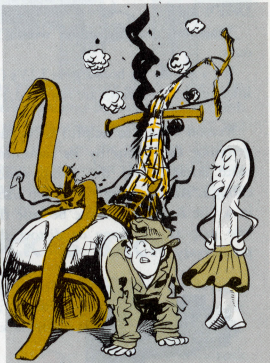


After all, when a cotter pin's in there doing its job, whatever it's holding isn't going to go flying off when it shouldn't.

But you ignore that little pin and what happens? Trouble, man, trouble. Like with one Sioux (H-13E) a while back.

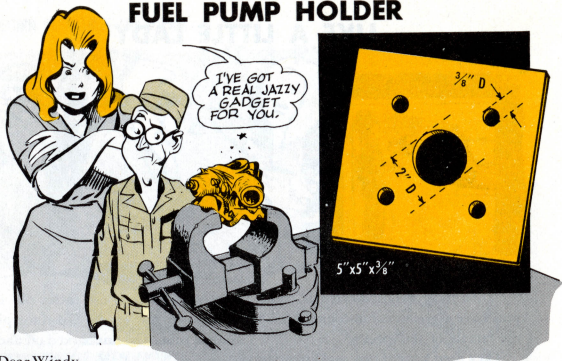
This bird was about to set down when the tail rotor failed. A lot of damage and even more sweat. Seems

somebody left out the cotter pin that safeties the nut on the tail rotor pitch control tube. The nut backed off and...



So, never under-estimate the power of a cotter pin. Treat 'em right and they'll stick with you through thick and thin. Ignore 'em—or treat 'em careless like—and they may go away mad—just when you need 'em the most.

FUEL PUMP HOLDER

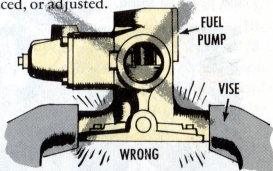


Dear Windy,

We think this suggestion would be very helpful to any small shop such as ours.

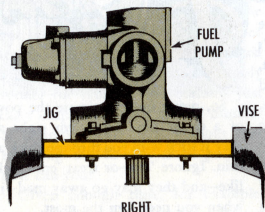
It's a simple jig holding on L23's fuel pump safely in a vise, while the pump's inlet and outlet fittings are removed, replaced, or adjusted.

Reason a jig's so helpful is because gripping the pump by its mounting plate doesn't hold the pump steady enough. And holding the pump itself in a vise is a big mistake because the vise grip can damage or distort the pump body.



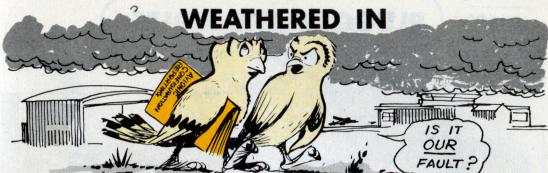
Vise damage to the pump may show up immediately—the pump shaft will seize. On the other hand, the defect may not show up until the pump's installed and you go to check out the engine.

Mounting the fuel pump on the jig provides a good anchor, and there's no danger of vise damage to the pump housing.



J. Stapleton
Aberdeen Proving Ground, Md.

WEATHERED IN



Remember that deal you read about, back in PS 102, for reporting Electronic Configurations of your Army aircraft? Well, seems like the flight plan was filed and they were on the strip, but a late weather development cancelled the

for reporting aircraft Electronic Configuration—it's in the works—but that Supply Bulletin mentioned in PS 102



mission. There's still a mission planned in that direction, but the ETD and routing are a little unsettled right now.

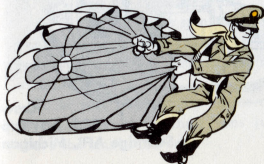
There sure enough will be a system



may not be showing up. And the eventual system may be somewhat different. In the meantime, scratch what PS 102 said. You'll get the word on the final system soonest—but this time I'll wait until they lift off before I report 'em "on the way!"

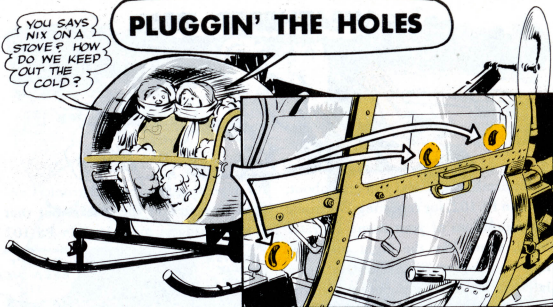
WINDY WINDSOCK IS BACK

Windy Windsock, the guy who got his start handing wrenches to the Wright brothers, is returning to his old PS desk to help out with Army Aircraft material. Got a problem, suggestion or idea about aircraft? Just write to:



PLUGGIN' THE HOLES

YOU SAYS
NIX ON A
STOVE? HOW
DO WE KEEP
OUT THE
COLD?



Dear Windy Windsock

There were times when it got mighty cool flyin' our Ravens (H-23D's) up into the blue yonder... mighty cool!

We'd turn the air vent scoops so's not to get a direct draft, but it still felt quite uncomfortable.

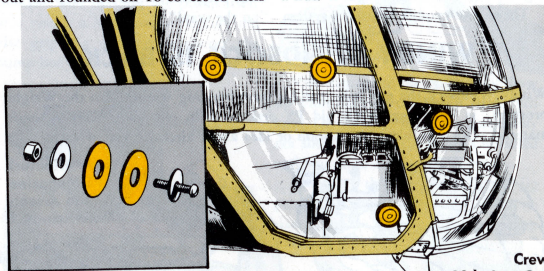
We made our flights much cozier with temporary plastic covers for the eight vent holes.

From fairly stiff sheet plastic we cut out and rounded off 16 covers so their

diameter was slightly larger than the vent holes. We used two covers for each hole.

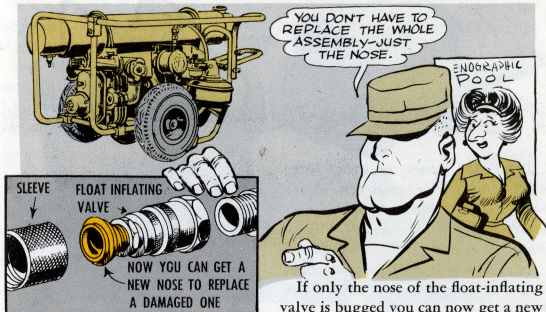
We drilled a 1/4-in hole thru the center of each cover so they could be matched.

We put one cover on the inside of the door or bubble vent hole, the other on the outside. Then we fastened 'em together with a 1/4-in screw, a coupla flat washers (one for each side), and a nut.



Crew
28th Arty Grp
Selfridge AFB, Michigan

NEWS FOR NOSES



You say you're using a Harris 2M, or 3MV, compressor to inflate rubber floats?

And you say the noses on your float-inflating valves get bugged just about every time you fill a span of floats? Then you have to replace the whole valve just to get a new nose?

Well, cheer up, friend, here's good news for noses.

If only the nose of the float-inflating valve is bugged you can now get a new one. You just put in for Nose Assembly, FSN 4310-542-3718. They cost \$1.80 each.

You won't find it in the pubs yet—it's just been separated from the whole valve assembly and set up in the supply line.

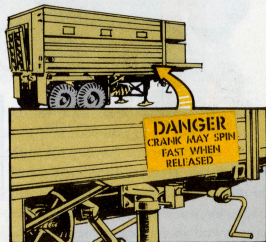
Just switch a new valve nose for the bugged one, and you're back in the float-inflating business.

BEWARE THE CRANK!

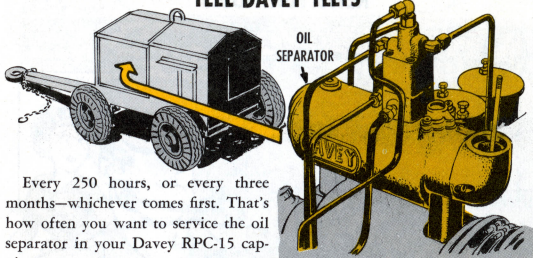
You want to grab a good hold on the crank before you lower the landing gear on any Boyertown semi-trailer mounted electrical repair shop in the 15777-1 through 15777-85 Series.

The crank's likely to spin when the weight of the landing gear hits it—so grab on good before you trip the release lever.

To be sure **nobody** gets clobbered, stencil the word on these vans just above the crank, like so—



FEEL DAVEY FELTS

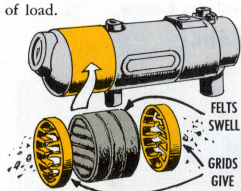


Every 250 hours, or every three months—whichever comes first. That's how often you want to service the oil separator in your Davey RPC-15 capping compressor.

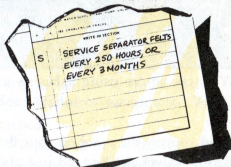
In other words, the separator should be a write-in item on page 5 of the DA Form 464 for your compressor.

Unless you write it in, it's mighty easy to miss servicing the separator—and here's why that shouldn't happen.

The three felts in the separator have to be kept in first-class shape to do their job. The compressor shoves oil-loaded air through the felts at 195 PSI and 15 CFM, so they're busy as bird dogs. And fouled felts can't handle that kind of load.

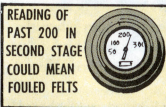


The minute dirt or gummy oil fouls the felts, they start swelling—and something's got to give. Usually it's the grids—so you wind up with a load of scrap metal in the separator.



To head off this trouble, you check the felts at least every 250 hours—and write it in on your 464 as a must-item reminder.

Also, when your Davey's working, eyeball the second stage pressure gage now and again. Any time the gage reads over 200 PSI, it could be a sign of fouled felts in the separator—setting up excess back pressure that throws an overload on the rotary compressor.

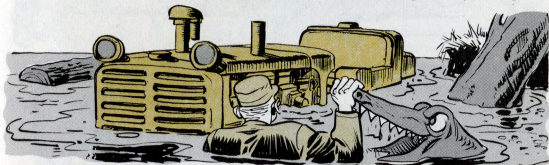


HOLD YOUR DAMP HORSES!

When a piece of Engineer equipment gets swamped—by flood, or any other deepwater dunking—you're smart to treat it like the victim of a could-be-crippling accident.

So you keep itchy paws off the starter switch until you're plumb sure the equipment's in safe shape to operate..

First you check out every place where water, grit or mudcake might work its way to points where it could short out, or chew out, the guts of your rig.

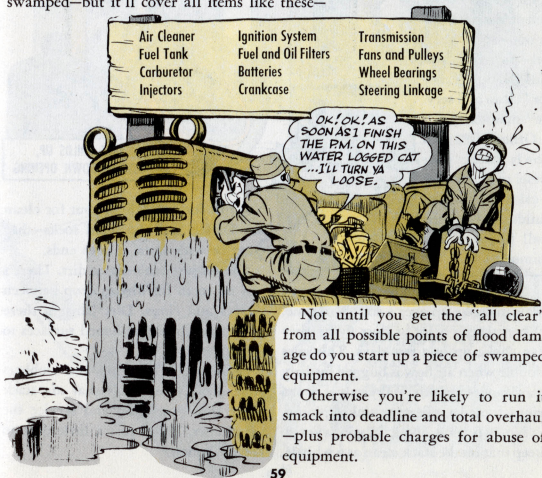


Your check list will depend, of course, on what kind of equipment gets swamped—but it'll cover all items like these—

Air Cleaner
Fuel Tank
Carburetor
Injectors

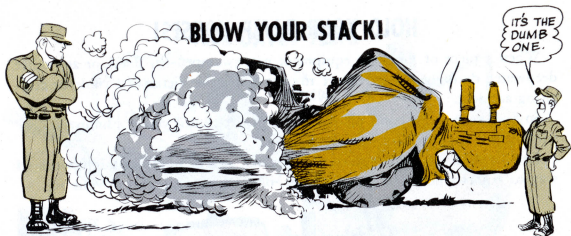
Ignition System
Fuel and Oil Filters
Batteries
Crankcase

Transmission
Fans and Pulleys
Wheel Bearings
Steering Linkage



Not until you get the "all clear" from all possible points of flood damage do you start up a piece of swamped equipment.

Otherwise you're likely to run it smack into deadline and total overhaul—plus probable charges for abuse of equipment.

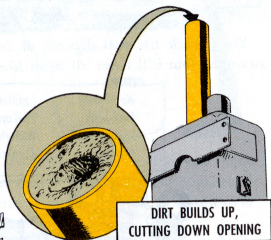
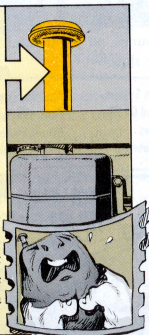


You've got to stacks on a diesel—right? A loud one, and a dumb one. It's the dumb one you want to watch.

It's the dumb intake stack that feeds your diesel those great gobs of air it needs to stay alive—even at idling speed.

That's the stack that can foul up your whole operation unless you blow it out—or swab it out—each time you pull the air cleaner for "clean and service" maintenance.

Otherwise, it'll slowly choke your diesel to death with a cake of dirt that builds out from the wall like soot in a chimney.



Not just for enough air, but for clean air. Diesels are like wind socks—they gotta be wide open at both ends.

Diesels just can't digest dirt. There's just no room for dirt to drop between sleeves and rings. Dirt jams in there and scores those fine-honed surfaces to a frazzle.

So before it clogs up and clobbers your diesel, you swab that air stack every time you clean and service the air cleaner. Takes just a little time to keep it honest.

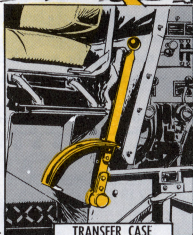
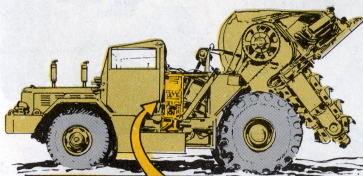
Some diesel air stacks, in fact, won't wait to choke up over a stretch of time. When there's a lot of dust flying they can choke up in a few days. This goes double when air flow is bugged by dirty air cleaner elements, leaky valves, worn rings, fouled mufflers, or kinked piping.

No two ways about it, you want to keep that intake stack clean as a whistle.

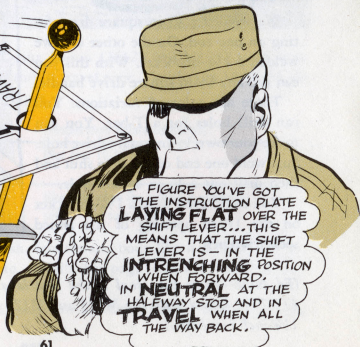
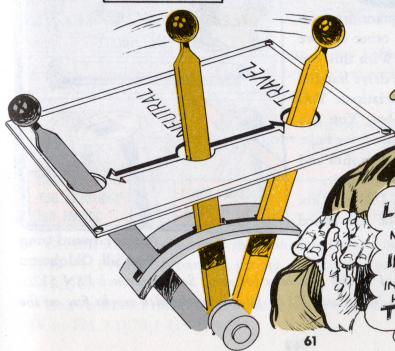
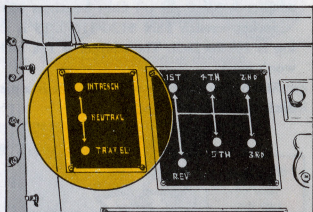
DIG OR TRAVEL

No need to get confused over the proper positioning of the transfer case shift lever in your Unit Rig intrenching machine.

The positions are just as plain as the plate on the dash. Follow the directions the same as if the instruction plate was mounted flat instead of upright.

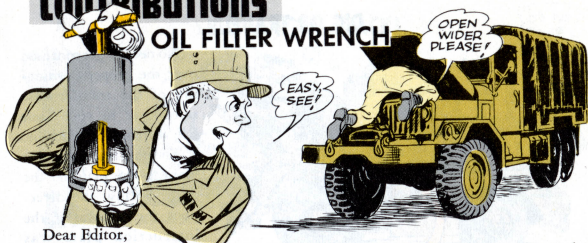


TRANSFER CASE
SHIFT LEVER



CONTRIBUTIONS

OIL FILTER WRENCH

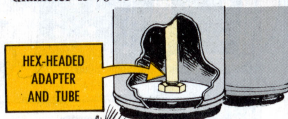


Dear Editor,

There is a problem on the G744 series 5-ton trucks. You have to clean the inside of the oil filter every Q maintenance. To do this you loosen the hex-headed adapter holding the oil filter housings to the engine bracket assembly.

Socket wrench FSN 5120-316-9215 is issued for this job. The wrench opening is $1\frac{3}{64}$ inch. The adapter is $1\frac{1}{4}$ inch. The wrench is $\frac{1}{64}$ th too small. It won't work.

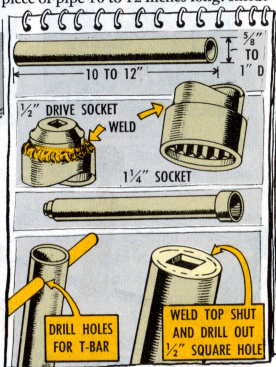
We made a tool. It will work. It is a piece of pipe 10 to 12 inches long. Inside diameter is $\frac{5}{8}$ to 1 inch.



We welded a $\frac{1}{2}$ -in square drive fitting on one end. On the other end we welded a $1\frac{1}{4}$ -in socket. With this you can use any $\frac{1}{2}$ -in square drive handle.

There are a lot of variations. You can drill holes for a T-bar. You can make your own $\frac{1}{2}$ -in square drive hole. Just weld one end of the pipe shut and then drill out a $\frac{1}{2}$ -in square hole.

You could even weld a $1\frac{1}{4}$ -in socket on the $1\frac{3}{64}$ th opening of the issued socket wrench.



Major Edward Long
Fort Sill, Oklahoma

(Ed Note—Your pipe tool is the best idea for now. Socket wrench FSN 5120-473-7741 issued with the M123 and M125 10-ton trucks also works fine on the $1\frac{1}{4}$ -inch hex bolts.)



CAP CARE

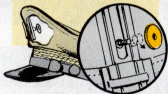


Dear Editor,

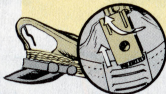
So many otherwise perfect AG-44 service caps are getting tossed into salvage because of busted-through peaks that we wonder if you'd pass along this tip,

Your cap'll survive the duffel-bag routine in better shape if you remember to unhook the stiffener gadget first before you stow it. Like so:

1. Unscrew the insignia from the inside.



2. Pull the metal tab out of the bracket.



3. Insert the insignia in the tab hole face up—to avoid scratching or loss.



Now the cap'll fold flat enough to keep from wearing through.

(Ed Note—Will do.)

Lt. Oliver VanCamp
N. J. National Guard

10-Ton Tire Pressure



Here's the latest scoop on the PSI your 10-ton (M123 and M125) truck tires get for the different types of terrain they'll travel over. The tires're 14.00-24, 20 ply, non-directional, mud and snow types.

Highway	55 PSI (Cold)	(Temperature Before Operation).
Limited Cross country	25 PSI (Cold)	(Not over 10-15 MPH).
Mud, sand, snow	15 PSI (Cold)	(Use only when the ground is extremely soft . . . not over 5 MPH).

Get this info stenciled onto the dash, fenders and body like it says in AR 746-2300-1 (11 Mar 60), para 15, pronto, described on page 14 of TM 9-2320-206-12 (4 Feb 60).

And remember this is for normal loads. For lighter or heavier loads, see Table IV in TM 9-1870-1 (18 Feb 55).

BACK SEAT DRIVER

Dear Editor,

After a couple of NC-10 Federal cranes got deadlined at this missile site because the operators didn't know which way their rear (steering) wheels were aimed before they applied power steering, we got wise.

We installed a "mother-in-law"—a metal flag that sits in back and tells the driver which way to steer.

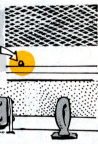
Actually, it's just a tapped steel rod inserted into a nut tack-welded to the vertical steering shaft. The flag turns like a tail with the rear wheels.

Here's how to make it:

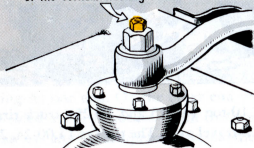
1. Get hold of a 2-ft piece of $\frac{3}{8}$ -in bar stock. Thread one end about $1\frac{1}{2}$ inches with a $\frac{5}{16}$ -in standard thread die. At the other end weld a half-moon-shaped piece of plate metal about 6 inches in diameter.



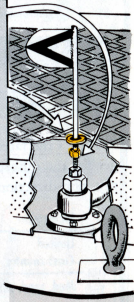
2. Drill a $\frac{5}{8}$ -in hole in the top of the engine shield for the rod to go through.



3. Tackweld a $\frac{3}{8}$ -in NF nut to the top of the vertical steering shaft.



4. Use another $\frac{3}{8}$ -in NF nut to lock the tail so's it lines up just right with the rear wheels. And put a rubber grommet where the rod goes through the shield to prevent vibration.



The flag's "pole" will be long enough so's the shield can be raised for some minor maintenance chores with no sweat. But if the "mother-in-law" gets in the way of a bigger job, you can unscrew it in a jiffy. In a real pinch you can even unscrew that big hexagon nut on top of the vertical steering shaft right over the $\frac{3}{8}$ NF nut you've welded on.

(Ed Note—The idea's fine, if the operator'll only make sure the indicator's lined up right with the wheels before he starts out. If the jam-nut's not tightened right or gets loose, the tail could point in the wrong direction—which might head the vehicle for real trouble. This check should be made part of the before-operations P.M.)

Mat Curto
Raritan Arsenal, Metuchen, N. J.

Connie Rodd's BRIEFS



Tell us no more

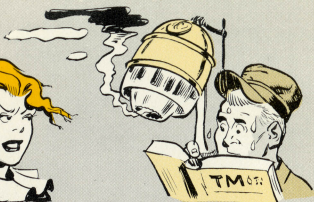
Your troubles are over if you've been having a hard time getting Shell Tellus oil for your Davey RPC-15 compressor. The word is you can now use Lubricating Oil, General Purpose, MIL-L-26087, instead of the Tellus 72 and 41. FSN 9150-577-4241 gets you a gallon from QM.

Honest John outfits...

You know the hydraulic oil pressure fluid filter that's listed on page 49 of TM 9-1055-208-25P—for your M405 handling unit? It shows up under FSN 4330-240-5871. If you want to get the right filter... ask for FSN 4330-895-0232. The Ord P/N is the same—8728228.

C2 to TM 9-2810

If your outfit doesn't have Change 2 to TM 9-2810 (6 March 61), better ask your publications people for it. There's new info in it about administrative storage, plus more dope on forms and records... plus new info on quarterly maintenance intervals for Army Reserve units.



From little acorns...

You want to help protect the exposed attaching bolt threads on your Nike-Hercules hoisting beams? They have a way of getting battered when you accidentally drop the beam or bang it up in some other way. What you want to do is make a local purchase of "acorn" nuts—like the kind you see on license plates to keep your hand and the washcloth from tearing up when you wash your car. 'Course, you'll need different sizes.

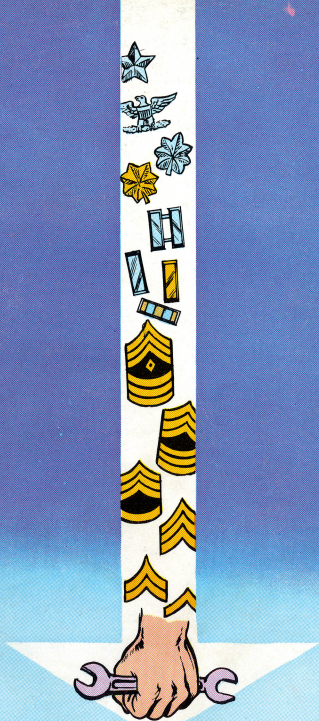
Devens...no taper

PS 103 had the info on page 1 that Fort Devens was among the installations giving OPERATION TAPER a try. There's been a change. Fort Devens won't be in on the test of TAPER. Incidentally, the DA TAG letter on TAPER has been followed up by DA Circular 700-15 (3 May 61).

Two for tet

Two new pubs will help you hex carbon tet. TB SIG 327 and TB 9-268 (both Jan 61) spell out the dangers of using carbon tetrachloride and list the treatments for anyone affected. They also list substitute cleaners.

***Would You Stake Your Life on
the Condition of Your Equipment?***



MAINTENANCE
IS A
COMMAND
RESPONSIBILITY